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THE DIAGNOSIS OF RABIES.

THERE are very few diseases the diagnosis of which is of more importance, than that which has been occupying so much of the attention of the London public recently. To be so well acquainted with the symptoms of dog madness, as to be able to state with more or less confidence that it is or is not present in a living dog, may on occasions be of the utmost importance with regard to human and animal life. To pronounce that a dog is not rabid when it really is so, must be fraught with the utmost danger to all immediately concerned; as people will be thrown off their guard, and neglect those measures which alone, when carefully enforced, can ensure safety. Some of these measures have reference to the prevention of the development of the terrible malady in those who have the misfortune to be wounded by the rabid animal; and of these the now most notorious and extraordinary is that introduced by M. Pasteur, which consists in a series of inoculations with rabific matter of different degrees of attenuation. So startling have been the results of this method of protection, that a large amount of incredulity has attended their announcement, and though this is gradually subsiding, yet there seem to be many persons who obstinately refuse to be convinced, and are of opinion that the "vast" majority of those persons inoculated under the direction of Pasteur, because of their having been bitten by animals supposed to be rabid, were wounded by creatures which really were not affected with Rabies. That this may have been the case in some instances is not unlikely, in view of the difficulty of obtaining exact information as to the condition of the animals which inflicted the injuries. But in other instances—and they are the most numerous—the testimony as to their rabidity is of the clearest and most decisive kind. Besides

there being conclusive evidence as to the innocuousness of Pasteur's preventive treatment, the majority of people would be inclined to argue that it is best to be on the safe side, and to recommend recourse to it even in cases of doubt as to whether Rabies was present or not. To do otherwise would, we apprehend, not be considered very judicious. Yet there are individuals among us who act in this wrong direction, and, heedless of the responsibility, try to ignore the value of the Pasteurian treatment, or attempt to cast doubts as to the rabid condition of the animals which rendered such treatment necessary.

Such an occurrence was noted recently. A medical man at Oswestry—Dr. Hughes—was bitten in the lip by his own dog, and his suspicions as to the creature's malady having been aroused, he called in a member of the veterinary profession, who, we believe, said it was suffering from Dyspepsia. After a brief time this opinion did not satisfy Dr. Hughes, and his suspicions becoming more confirmed as to the rabid state of the dog, he hurried off to Paris and placed himself in the hands of Pasteur—most wisely and properly, we think.

Doctor Anna Kingsford, who appears to constitute herself an authority on the subject, and a determined opponent of M. Pasteur, has contrived to get hold of the veterinary surgeon's description of the case of the dog, and has written to the public press two letters, in which she has the temerity to assert that the animal was not rabid at all, and that therefore there was no need to adopt any precautions. Such conduct is clearly and wholly indefensible, and especially when we read the symptoms the dog presented. These were written out by Dr. Hughes, in a brief but lucid manner, and sent to us for our opinion; and if we were asked to describe the symptoms in a typical case of Rabies, we do not think we could do better and in as few words than he has done. We share the regret experienced by other members of the profession, that the veterinary surgeon called in to see the dog should have mistaken a case of Rabies, with all its classical features present, for one of Dyspepsia. Fortunately, the wounded owner had his doubts as to the correctness of the diagnosis, and secured his safety by the best means now known.

But the incident points a moral, and it is for this purpose, and with a view to drawing attention to the serious responsibility veterinary surgeons incur in dealing with such a disease, that we allude to it, and publish the symptoms as Dr. Hughes observed them in the dog:—

Sunday.—To-day my dog appeared to be unwell, and did not

take his food as usual. While out walking with him in the afternoon, two gentlemen drew my attention to him, as he was foaming at the mouth. I took him home and wiped his mouth.

Monday.—The dog appeared to be in much the same condition, taking very little food.

Tuesday.—He seemed decidedly unwell. In the afternoon a friend called my attention to the fact that the dog was persistently gnawing a log of wood.

Wednesday.—While out walking in the morning, I was surprised to find my dog snapping at every dog that came near him, as previously he had been of a most amiable disposition. In consequence of this change in his manner he was chained up. He took no food.

Thursday.—To-day he slipped his chain about 12 a.m., but returned home in about an hour. He was allowed to lie on the hearthrug, and appeared to be sleepy when called to. In the evening, while sitting down reading, I happened to move my foot slowly, when the dog rushed at it. I was then told that he had done the same to my brother a short time before. He was chained up for the night, but he disturbed me by clanking his chain and howling; his cry being something between a whine and a howl. So annoying did this become, that I had to shout to him in his kennel. He had been gnawing and tearing up such things as wood, sacking, etc.; but this was far more noticeable on the following day.

Friday.—He slipped his chain twice after he was chained up; on the second occasion I went out to him, and while stooping and patting him, he suddenly snapped at me and bit my lower lip, and immediately slunk into his kennel. Mr. ——, M.R.C.V.S., asked to see him, and gave it as his opinion that he was not affected with Rabies. As I was not home when Mr. —— called, I went to his house in the evening with a friend. Mr. —— laid great stress on the fact that the dog's mouth was dry, and he said that even if it were Rabies he could hardly have inoculated me, as he was not salivating, and hence there was no poison eliminated. He was again howling at night.

Saturday.—He again slipped his chain in the morning, but shortly after came into the house. He was shut up in a room while a new chain and collar were procured; while there he tore up a footstool and scattered the pieces about. The veterinary surgeon came and saw him. As no one would volunteer to put on the new collar, I suggested that I should take him for a walk while a disused stable was being prepared. While putting on my boots, he again rushed at my foot. I took him for a walk, and on the way he met a dog, which he went up to and snapped at. He

was brought home and shut up in the stable. I noticed that he had become extremely emaciated since Wednesday, that his coat had entirely loss its gloss, and that he was tottering on his hind legs.

Sunday.—He was found lying dead and rigid, with the tongue protruding. He lay on the bare stones, all the straw being kicked away in a circle, as if he had died in convulsions.

Post-mortem Examination.—The stomach was full of matting, hair, etc. The liver was slightly congested, and the gall-bladder rather full. The coats of the stomach were quite healthy. I think the throat was slightly congested. The brain and spinal cord were not examined.

POLL-EVIL: A CURIOUS CASE.

BY J. ROALFE COX, F.R.C.V.S., LONDON.

THE following case of extensive, deep-seated disease beneath the poll, without occasioning any noticeable manifestation for some length of time, is interesting and instructive.

A horse, six-year-old, six or seven months since purchase, had been at regular trotting work in a hooded cart, used for parcels delivery, in the business of a large West-end firm.

During this period nothing had occurred to attract attention to anything wrong affecting him until January 15th, 1886. On this day the horse was submitted for advice, on account of a sore on the neck, thought to be the result of a punctured wound through some unknown accident.

The sore was situated on the off side of the neck, eight inches from the occiput, and one and a half inch beneath the line of growth of the mane, and about the size to admit the tip of the little finger.

Examination showed it not to be due to any wound *from without*, but to a freshly-formed outlet to a sinus from *within*.

A flexible metal probe passed readily as far as the occipital bone, where it stopped at a point on a level with the upper surface of the atlas. The passage of the probe was deep, and from a short distance after entering the sinus could not be traced by the pressure of the fingers from without.

The horse showed little or no resistance to examination of the poll, and forced movements of the neck produced but little indication of inconvenience. By holding the ears the head was depressed for careful examination of the poll externally, and not the slightest deviation from perfect symmetry of the parts could be detected, nor any sign of fluctuation to indicate accumulation of pus, either at the surface or deeply seated.

Simple treatment was adopted to tide over a few days and to note the issue; then a simple injection into the sinus by the opening on the neck was had recourse to, and a very unusual condition of affairs was revealed, inasmuch as the fluid injected at the neck passed away directly and continuously through the nostrils.

The discharge from the neck became afterwards rather free and of an unhealthy character, as indicating disease of bone, and now and then similar discharge was noticed in the manger. Pain and difficulty in the movement of the head and neck increased, and rather suddenly, towards the end of the fourth week, partial paralysis of the limbs, particularly of the two fore-legs, supervened. Under my advice, the horse was then destroyed.

On *post-mortem* examination, the probe, as during life, passed from the off side of the neck to the occiput; then, on removing the covering structure, to trace further, it was found that it crossed over by the antero-superior part of the atlas, and dipped downwards on the *left side* by a continuous channel to the pharynx, and by this route to the nasal passage. The occiput and the atlas were extensively diseased, being affected by a good deal of irregular bony deposition, and their articular surfaces on the near side were also involved. There was erosion, also, on the upper aspect of the atlas.

On inquiry at the stable, it seems nothing peculiar had been noticed about the horse, other than he had always been *awkward and troublesome to bridle.*

The case is interesting, as showing how occult may be extensive injury in the region of the poll, and also in the unusual channel by the nose for the discharge from this part. I believe the relief had been by the pharynx for some time prior to the formation of the second sinus down the neck. It is not unlike the post-pharyngeal abscess, with disease of the cervical vertebræ, met with in human surgery.

CHOREA (?) IN A HORSE.

BY G. AITKEN, M.R.C.V.S., ARMY VETERINARY DEPARTMENT (16TH LANCERS).

July 24th.—Chorea. "This is a remount nearly trained." On being led out to water yesterday, at evening stables, this mare was noticed to have a peculiar gait. I saw her about 10 p.m., but could detect little wrong with her in the loose-box. This morning I had her led out of the loose-box; she seems to have lost all proper control over her action, both of the fore and hind legs, and, once set walking, is with difficulty stopped, and always seems

inclined to pitch on to her head. There is severe clonic spasms of the neck and fore-quarters, similar to those seen in dogs suffering from Chorea, as a sequel to Distemper. The animal is not of a nervous disposition, neither has she shown any sexual excitement. Her pulsations are both regular and normal. Keep quiet, and prepare for physic.

July 25th—Much the same; appetite good. Give Aloes BB. ʒj in solution.

July 26th.—Cathartic operating freely. The clonic spasms have nearly ceased, but the animal still seems to have little control over her action.

July 27th.—Cathartic set. The clonic spasms have quite subsided, and the animal seems to walk better. Keep quiet, and give sloppy diet.

July 31st.—Much the same. Continue to keep quiet, and give Potassii bromide ʒiss daily.

Aug. 8th.—Walked the mare out of the box this morning; she appears to walk decidedly better; is very fresh, and inclined to play.

Aug. 16th.—Seems to be doing fairly well; walks more steadily, and seems to have more control over the action. Give gentle walking exercise.

Aug. 31st.—This animal, after being at exercise for a short time, seems to lose entire control over her action, and staggers about like a drunken man, and is always inclined to pitch on to her head when made to halt.

Sept. 15th.—Continues much the same. Discontinue Potassii bromide. I fear the animal will never be fit for military service.

Sept. 30th.—The mare seems to have less control over her action. She is otherwise, apparently, in the best of health and spirits; but, when walking, if she comes across an uneven piece of ground she toes it, and then staggers forward for a few steps. Allow to run loose in the drill-field for a few hours in the daytime.

Oct. 21st.—No improvement. I have noticed this mare several times, after being let loose in the field, canter away for a short distance, then suddenly turn heels over head, after which she would lie for a few seconds, then jump up and commence to graze. I intend to bring her forward for special casting unless she improves soon.

Nov. 18th.—The mare is gradually becoming worse. She was with difficulty got in from the field yesterday evening. I have brought her forward, before the officer commanding, for special casting. Keep quiet in loose-box.

Dec. 17th.—She has been cast by the Major-General commanding the Division.

Jan. 3rd.—On the day of sale the mare was found to be unable to walk to the place of auction. A Board of officers assembled and recommended her destruction, which, on being approved of by the Major-General of the district, was carried into effect this morning by opening the carotid artery. *Post-mortem* showed the whole of the spinal cord to be congested, but, after a most careful examination of the brain, I failed to detect any tumour or disease.

TORSION OF THE NECK OF THE UTERUS IN THE EWE.

BY W. LEWIS, M.R.C.V.S., BARNET.

I WAS called at 7.30 p.m., 23rd March, 1886, to see a Cheviot ewe, the property of S. B. Boulton, Esq., of Copped Hall. Found the animal occasionally straining, and learned she had been endeavouring to pass her lamb since noon of the preceding day. On examination, the hand passed readily into the vaginal passage up to the os uteri, which was completely closed, and presented quite a hard and tight resistance to the introduction of even the point of the finger. Not being able to account for this complication, except on the supposition that the neck of the uterus was in a state of torsion, I had her turned over from left to right without withdrawing the hand, and using slight pressure with the point of one finger to the os. Fortunately, I had hit upon the correct turn of the torsion, and after rolling the ewe over from left to right no fewer than five times, without withdrawing the hand, and using the same slight amount of force, I readily passed it into the uterus, the os perceptibly dilating with each turn of the animal.

Parturition was easily effected, and the ewe has done well since. She has given plenty of milk and acted as a foster-mother. I venture to submit this case for publication, as being one of unusual interest and rarity.

THE ESSENTIAL DIET OF A HORSE FOR TWENTY-FOUR HOURS, ITS HEAT-FORMING AND MECHANICAL VALUE.

BY FRED SMITH, ARMY VETERINARY SURGEON, LABORATORY OF HYGIENE, ROYAL VICTORIA HOSPITAL, NETLEY.

THE losses of the body, which have to be made good by food, are of two kinds :—

(1) That resulting from animal heat, the movements of the heart, lungs, bowels, etc., known as the internal work ; and

(2) That resulting from muscular and other movements, and recognised as external work.

We have, therefore, two diets to maintain: the first, to allow of a perfectly-balanced condition of the system, by repairing the losses resulting from the internal work, so that the body-weight may remain unchanged; and, secondly, to restore the waste occasioned by increased muscular and respiratory activity, resulting from the external work.

It is very important, from a scientific point of view, that these distinctions are observed, and in order that this should be so, the first diet is called the *essential* or *subsistence* diet, and the second the *variable* diet.

The methods of experiment by which the quantities forming these diets are determined are most laborious. To obtain the subsistence diet, the food given to the animal is subjected to a careful analysis, and the amount of carbon, hydrogen, oxygen, nitrogen, and salts contained in it ascertained. Known weights of this food are then given, and all the excretions, lungs, bowels, and kidneys subjected to analysis; the body-weight is carefully observed, and the animal placed under such circumstances as to prevent, as far as possible, any movements of the body. The difficulties of carrying out this may be readily appreciated; even in experimenting on men, absolute repose cannot be maintained; but in spite of these drawbacks to extreme scientific accuracy, a very correct approximation may be arrived at.

It is evident that if we know the amounts of C, H, O, and N going into the system, and the quantities of the same elements passing out of it, that the difference between these two amounts will represent the quantity which has been absorbed and retained in the system for the purpose of internal work, and (if the body-weight during the experiment remain unchanged) the difference represents the actual requirements of the system.

In order to obtain the second or variable diet, we calculate as work done the dynamic value of all food digested over and above that required for the subsistence diet. This necessitates, also, elaborate chemical analyses, for only by this method can the amount which is digested be ascertained.

If the dynamic value of the food digested accords with the amount of energy expended by the animal (which may be approximately calculated by a mathematical formula), and the body-weight remains unchanged, it is then legitimate to conclude that the amount of food supplied was sufficient to meet the requirements of the system. It is evident, however, that this diet is a most difficult one to fix, as all depends upon the amount of energy expended during work. For this reason I have named it the *variable* diet. We

have yet another method by which this diet may be calculated, and it is by the quantity of carbonic acid given off from the lungs. The amount of this is directly proportional to the work done; by ascertaining the quantity given off, a simple calculation shows the amount of energy expended and, approximately, the amount of food required.

This method of investigation is by far the most simple, from an analytical point of view, but quite the most difficult to carry out, as it involves the animal wearing an apparatus over its muzzle during work, and other inconveniences unnecessary to detail. I am endeavouring to overcome these difficulties by the construction of a simple instrument, as the method of analysis is much too valuable and rapid to be cast aside.

The analytical valuation of the losses of the body, such as I have indicated above, have been carried out more or less accurately on the Continent, and particularly in France. Boussingault's name stands foremost in this, as in most other, matters of chemical and agricultural interest. His experiments are now very old, and not complete. As far as they were carried, there can be no doubt they are thoroughly trustworthy. In late years the Germans have come to the fore in this, as in other, branches of science. For the present we have to draw on both these countries for the following information regarding the losses of the body. I trust, however, shortly to be enabled to carry out completely those investigations which are so full of important and interesting results both to the scientist and practical man.

The following table will show one of Boussingault's experiments on a horse, made to ascertain the smallest amount of food required to keep a horse in health without loss of weight, or, as we will now speak of it, to determine the essential diet of a horse for twenty-four hours :—*(See next page.)*

From the table, it will be seen that this horse required 5·423 lbs. carbon, 9 oz. hydrogen, 4·061 lbs. oxygen, and 1·3414 oz. nitrogen in twenty-four hours.

The nitrogen recovered requires some consideration. It is usual, in man, to regard the nitrogen found in the urine as the exact measure of the requirements of the body. The careful experiments of Parkes showed that all the nitrogen taken into the system was recovered from the bowels and kidneys. The former was, of course, the undigested nitrogen, and may be at once dismissed, but the latter was the measure of nitrogenous waste, and is consequently of the greatest importance in determining the requirements of the system. It will be observed that Boussingault's experiments do not agree with those of Parkes and others in this respect. He did not recover from bowels and kidneys the amount of nitrogen administered, and is, in fact, 354·438 grains short; this is ex-

TABLE FROM WHICH MAY BE CALCULATED THE REQUIREMENTS FOR TWENTY-FOUR HOURS OF A HORSE WEIGHING 1,102 POUNDS.

Food.	*Weight in a wet condition.*	*Weight in a dry condition.*	*Carbon.*	*Hydrogen.*	*Oxygen.*	*Nitrogen.*	*Salts.*
Water	35·2 lbs.	—	—	—	—	—	200·6 grs.
Hay	16·5 „	14·223 lbs.	6·514 lbs.	11·4 oz.	5·504 lbs.	1497 grs.	1·28 lbs.
Oats	4·994 „	4·239 „	2·149 „	4·342 „	1·555 „	648 „	2·718 oz.
	56·694 „	18·462 „	8·663 „	15·742 „	7·059 „	2145 „	1·478 lbs.
Amount of above constituents recovered in the							
Urine	2·926 lbs.	10·76 oz.	3·847 oz.	169·75 grs.	1·2 oz.	586·862 grs.	3·883 oz.
Fæces	31·35 „	7·755 lbs.	3·0 lbs.	6·354 oz.	2·923 lbs.	1203·7 „	1·265 lbs.
	34.276 „	8·42 lbs.	3·24 lbs.	6·742 oz.	2·998 lbs.	1790·562 „	1·507 lbs.
Difference between the Food supplied and Excreta recovered equals the amount digested ...	22·418 lbs.	10·042 lbs.	5.423 lbs.	9·0 oz.	4·061 lbs.	586·862 grs. (Represented by the Nitrogen of the Urine.)	
Carbonic acid given off = 6·92 cubic feet per hour.							

plained by saying that it passed off in a free state by the lungs and skin. We now know that the amount of nitrogen given off by the lungs and skin is infinitesimal, so there is probably an error in the analysis. Are we, therefore, justified in considering as nitrogen digested, all over and above that recovered from the fæces? On the other hand, may there not have been more nitrogen returned with the fæces than the analysis represents? This is the weak part of Boussingault's experiment, and for this reason it requires careful repetition. It is weak for this reason, that we will find that when we convert the nitrogen into albuminous food, that there is a wide difference between the amounts we assume the system requires when we convert the nitrogen of the urine into albumen, or when we convert the nitrogen of the urine plus the deficit into albumen. To be clear, assuming the nitrogen found in the urine was the actual amount required in albuminous food, then the quantity of albuminoids would be 8·36 oz. for twenty-four hours; but if we add the missing nitrogen to that found in the urine, and consider that to be the measure of nitrogenous food required, then the quantity would be 13·4 oz.; roughly, a difference of 5 oz. of nitrogenous food, which is something very considerable.

We could see no way out of the difficulty were it not that other careful observers have placed on record the amount of albuminous food required by a horse in twenty-four hours, and as these quantities fall below the 8·36 oz., we may provisionally assume this quantity to be correct.

It only remains for us, therefore, to calculate the heat-forming and mechanical value of the food ingested, and then to tabulate the essential diet of a horse for twenty-four hours. Before we proceed to this, we have to consider briefly how the heat-forming and mechanical value of a food is arrived at.

The amount of heat which can be evolved by substances undergoing oxidation was ascertained in a very ingenious manner by Frankland. The food to be examined was dried, then mixed with a powerful oxidising substance, such as chlorate of potash, and the whole placed in a sort of oven, known as a calorimeter, which is surrounded by water. The substance was then combusted, and the amount of heat developed raised the temperature of the surrounding water; 1 gramme (15·432 grains) of the water, raised 1° centigrade (1·8° Fahr.), is call a *heat unit*. By this method of investigation it was found that

15·432 grains of albumen	evolved,	when	oxidised,	4,263	heat	units.		
" " " fat	"	"	"	9,069	"	"		
" " " starch	"	"	"	3,912	"	"		
" " " grape sugar	"	"	"	3,277	"	"		

In plain language, 1 lb. of albumen oxidised will raise the tempera-

ture of 4,263 lbs. of water 1·8° Fahr.; or 1 lb. fat will raise the temperature of 9,069 lbs. (nearly four tons) of water 1·8° Fahr.

In the animal body the carbon of the albumen is never fully oxidised, as so much of it passes off in the urea as carbon monoxide. In the above table the deduction on this account has been made.

If we ascertain the amount of heat evolved, it is a very simple process to convert it into its equivalent of mechanical energy.

Joule, of Manchester, demonstrated that the heat required to raise the temperature of one pound of water 1° Fahr. was equivalent to the power required to raise one pound 772 feet high. The foot pound is, therefore, the unit of work, and 772 foot pounds is the mechanical equivalent of 1° Fahr.

We know the number of heat units each substance is capable of producing, and from this is calculated its potential energy or mechanical value.

1 oz. albumen oxidised in the system yields 150 foot tons of potential energy.
" fat " " " " 378 " " " "
" starch " " " " 138 " " " "
" grape sugar " " " " 124 " " " "
" carbon converted into CO_2 " " 310·625 " " "

Disregarding the elementary composition of the food supplied, let us now convert it into actual feeding material.

The diet supplied contained	The excrement contained	Amount digested.
Nitrogenous Matter, 1 lb. 14·36 oz.	1 lb. 6 oz.	8·36 oz.
Non-nitrogenous Matter, 15 lbs. 4·42 oz.	5 " 6·6 "	9 lbs. 7·82 oz.

We have next to convert our 8·36 oz. nitrogenous matter and 9 lbs. 7·82 oz. non-nitrogenous into heat and work; for this purpose we must calculate the amount of carbon, hydrogen, and oxygen they contain, observe the amount of hydrogen and oxygen which go to form water, and convert the remaining carbon and hydrogen into heat and energy.

To facilitate the working of this, we use the metrical system of weights, and convert the answer into English weights.

The diet digested contained :—Carbon ...2384·54 grammes.
" " " Hydrogen 244·76 "
" " " Oxygen ...1781·07 "

4410·37

The 1781·07 grammes oxygen united with 222·63 grammes hydrogen to form water. There was, therefore, left

Carbon ... 2384·54, which is equal to carbon 2384·54
Hydrogen 22·13 " " " 94·39

Carbon 2478·93 grammes = 87·506 oz.

87·506 oz. carbon = 27,181·55 foot tons of energy.
8·36 „ albumen = 1258·18 „ „ „

Total 28,439·73 „ „ „

We may ascertain, in another way, the energy expended by calculating out the amount of carbon compounds contained in the diet after digestion. The diet contained after digestion :—

Starch ... 3181·6,	which is equal to	1399·9	carbon.	Carbon available from the urea and from nitrogenous portion of diet unaccounted for = 253·90 grammes.
Cellulose 1141·57	„	„ 502·29	„	
Fat ... 237·83	„	„ 286·69	„	
4561·00 grammes.		2188·88 grammes.		

2188·88 + 253·90 = 2442·78 grammes carbon available for heat and energy.
2442·78 grammes = 86·23 oz. × 310·625 (the foot tons of energy per oz. of carbon) = 26,785·19 foot tons.
Therefore the carbon of the food supplies 26,785·19 foot tons energy,
The 8·36 oz. of albuminoids ... ... 1258·18 „ „ „

Total 28,043·37 „ „ „

This is rather less than the first calculation.

We can check these results by calculating from the carbonic acid expired the amount of carbon it contains, and converting this into energy. The two results should agree very closely.

As shown on the table, this horse expired 6·92 cubic feet CO_2 per hour, or 166·08 cubic feet per twenty-four hours.

The amount of carbon this contains is equal to 27,859·7 foot tons of energy.

This result agrees very closely with the amounts calculated from the food, especially the last ; 28,000 foot tons of energy is, in round numbers, probably the amount expended by a horse in twenty-four hours on his internal work alone. How much of this is utilized in the production of animal heat, and how much for the working of the heart, bowels, respiration, etc. ?

The ratio of the internal work to the internal heat is, in man, as 1 : 9·8 ; accepting this provisionally for the horse, the result would be :—

Work of heart, etc. = 2,660 foot tons.
„ „ heat = 25,199 „ „

Total 27,859 foot tons of potential energy in 24 hours.

The essential diet for a horse for twenty-four hours may thus be stated :—

Albuminoids	8·36 oz.
Fats	3·19 oz.
Carbo-hydrates	11·5 lbs.
Salts	4 oz.
Total water-free food	12·472 lbs.

This is absolutely water-free food, and the potential energy it is capable of producing is equal to 27,855 foot tons.

Assuming the weight of the horse to be 1,000 lbs., he would require 87·3 grains for each pound of body weight; or the whole body would receive about $\frac{1}{80}$ part of its weight in food every twenty-four hours, *for subsistence only, without doing any external work.*

The quantities of the essential diet differ somewhat from those originally published by me in the *Quarterly Journal of Veterinary Science in India.*

We have spoken of this essential diet as theoretically absolutely water-free, but in reality it would contain from fifteen to twenty per cent. of water, and to allow for this we must add 1·87 lbs., or 2·49 lbs. on to the 12·472 lbs. constituting the water-free food.

Such is the ration, with its heat-forming and mechanical value, which will support the vital process of a horse for twenty-four hours.

The food required for labour will take some time to work out, but we trust to complete the observations this year. We may, in a future paper, consider the principles which enable us to judge of the amount required.

STRONGYLUS TETRACANTHUS.

BY S. H. SLOCOCK, M.R.C.V.S., HOUNSLOW.

THE occurrence of this strongyle may not be so uncommon in some districts as in this; but thinking that the record of a few particulars may be of interest to some readers of the VETERINARY JOURNAL, I venture to submit the following:—

Some months ago, I was called to see two colts (two years old). They were said to be doing badly and scouring. I found both at grass: one was purging violently, was greatly emaciated, and showed every symptom of exhaustion from parasitic disease; the other was showing the same symptoms in a less degree. On examining the fæces, I found the blood-red strongyle present in great numbers, so was at once aware what I had to deal with. I had the colts removed to warm quarters, and they were there allowed a most liberal diet. I prepared the owner for the death of the weaker colt, which succumbed in a few days, and explained that the fate of the second colt was most uncertain. I relied for treatment on the good diet, a supply of rock-salt, and preparations of iron. Under this treatment the stronger colt gradually improved in condition; but for weeks continued to pass the parasites at every motion. He has now thoroughly recovered.

A few weeks since, I was called to a colt on another farm. He

was one of five, and had been housed at night all the winter and well cared for. He showed the same symptoms as the above colts, but for a fortnight I failed to find the parasites in the fæces. Suspecting the true origin of the purgation, I commenced the tonic treatment. The colt became gradually weaker until, seeing that the case was hopeless, I advised her destruction.

Post-mortem examination revealed the cæcum and the whole of colon in a marked state of congestion, and the parasites in great numbers in the canal. The larval forms could be distinctly seen arranged in a circular form under the mucous membrane of the intestine, also there were numerous punctures of the membrane, showing the points at which the forms had made their exit on reaching maturity. Strongylus armatus was present with them in some numbers.

Strongylus tetracanthus is in length from half to one inch, and is of a bright-red colour. It has a circular mouth, armed with numerous upright teeth or denticles, and outside them are a row of six conical papillæ. The neck is armed with two bristle-like spines; body smooth.

This parasite, owing to its armed head and wandering habits, is probably one of the most destructive parasites of the horse.

OBSERVATIONS ON SOUNDNESS.

BY R. H. DYER, M.R.C.V.S., LIMERICK.

(*Continued from p.* 166.)

Not feeling satisfied with the progress the case was making under his own treatment and superintendence, he sent for me to go to his place and employ the actual cautery upon both front legs, provided they were in a proper state for such operation. The legs were examined, and I was of opinion they had no abnormal heat in them, and firing was performed at once, and that, if all went on well, the animal would be fit to work in about three months. In a few weeks the servant called to report progress—that the horse was doing well, that a good job had been made of the case, and that no blemish would be left, which I was pleased to learn. In three months, or more, I learned that the horse was more lame than he had ever been, and that the opinion of another practitioner had been sought, which was to the effect "that the horse had been fired too severely." The owner took advantage of the opinion he had received from the "*horse-dealing V.S.*," and declared his intention of holding the operator responsible for the state the parts assumed. An explanatory note was written and forwarded, which led to some angry remarks from the owner, who, however, afforded

me an opportunity of examining the limbs of the horse. I found the joint had been injured in three different places by the heel of the shoe of the opposite foot, and it was plainly visible that the horse had been in the habit of rubbing the skin upwards and downwards for several inches, so as to produce blemishes on each part of the limb, leaving the intermediate parts untouched. The uninjured parts bore the marks of the cautery, and the hair had grown in such a manner that they were scarcely perceptible, without looking closely at the leg. The joint was double its natural size, and externally inflamed—indeed, red—and remained so for six months. I kept the horse at my own stable, at my own expense, in order to see the termination of the case and to secure the limb after death. Finding there was no prospect of performing a cure, I had him destroyed. The bones were boiled, and are still in my possession: the large metacarpal, the sesamoids, os suffraginis, os coronæ, navicular, and the os pedis all discoloured, their hue is *purple;* the lower half of the large metacarpal bone is covered with spiculi, both anteriorly and laterally; the suffraginis is likewise covered by these osseous deposits. The result of the case gave ample proofs of what amount of injury had been inflicted by the animal himself, if the story of the servant could be believed, which may be received as truth, or the owner would have spoken out before. This was a breakdown of a peculiar character, which would, I have no hesitation in asserting, have terminated in a satisfactory manner if the horse had received proper treatment and attention at home. Unfortunately, however, for the horse and the veterinary surgeon, both the owner of the animal and his servant knew too much in one sense, and not enough in another. I would warn all young men to beware of these very clever horse amateurs: if all goes on well and safely, they are very courteous and friendly indeed; but if cases turn out adversely, they are the most dangerous people we have to deal with.

The front leg, when found in a passive state, is, I have said, standing almost perpendicularly, so that a plumb-line placed at the point of the shoulder should touch the point of the toe on the ground: this is allowed by all judges of horses to be the acme of perfection as regards position. These several parts outside the hoof have never been known to become diseased, or to sustain injury by long standing, except in hilly or mountainous districts, or in ill-paved stables; in either case, there is liability to injury of the flexor tendons. It will be inferred from these remarks, together with some at the commencement of this paper, that most—indeed, all—the injuries to which I have given the name of breakdown result from violence, and that, as a general rule, when in motion. I chose the term for

all these lesions in preference to "strain of back tendons," "sprain of the sinews," and others which I need not repeat. If we will just take a glance at the limb of the horse during the various movements he is capable of producing, we shall, doubtless, commence with the walk, or first movement. In this pace there is not much to bring about breakdown; nor in the trot, it being so regularly and evenly performed, are we likely to find it, unless there be a hole into which a horse places his foot; nor does the canter afford many cases of injury of sheath of tendon, or anything bordering on breakdown. When the pace is increased, and by it increase weight—for by increasing pace weight is increased at the same time, although no more weight is carried—we shall find cases of this kind frequently occur, and at the time the distance (if on a racecourse) has been nearly run. I have known but few instances of giving way at the commencement of a race, except under extraordinary circumstances. When all the muscles are in full play, as they are found to be in a strong gallop, and an animal excited, amongst others, it is when these lesions takes place, and especially so when the horse is used up at nearing the goal, and his jockey has let go his head and sat down to flog. This is the time the mischief often happens, for it is at this juncture the horse is all abroad. I am of opinion there are more races lost, and more horses injured, by this sitting-down system than by any other. If the horse, instead of having his head to himself, were to be held together, and a stimulus applied with the heel, or even a shout, in many instances success, instead of failure, would be the result. I have witnessed many races where these reflections have been forced upon me; besides, the animal being held together, the jockey, watching the movements of his horse, would be less likely to take him upon uneven ground or give the chance of a breakdown, as is too often done. It is when the limb is extended too far beyond its power of recovery that this takes place, and, as a general rule, under no other circumstances. To be plainer, I would state that the extensor muscles have been exerted beyond the power of the flexors, so that the latter have not sufficient strength to overcome the former; a *dwelling* upon the soft parts below the knee is effected, and a giving way of these soft parts the consequence. I know of nothing so likely to interfere with the action of the horse, when doing his utmost at top-speed, than that of the rider sitting down, as many men do, letting go the head, and flogging with all their might. It is the watchful, waiting jockey who can be depended upon; if he has studied and understood pace, he will make his effort within the last stride or two, and win a race with much more certainty than the man who practises the objectionable system alluded to. As, however, I am not scribbling about racing, I must conclude.

Editorial.

THE NEW HOME OF THE PROFESSION.

The new home of the Royal College of Veterinary Surgeons was formally opened on April 6th, by the President, Mr. Roalfe Cox, entertaining the Members of Council and the Examining Board at a luncheon in the museum room. Advantage was taken of the occasion of the usual quarterly meeting of Council to celebrate the event, and thus a larger number attended to inaugurate the opening of the building than might have been the case had there not been the motive of combining business with pleasure. However this may be, the President's guests, in the enjoyment of his excellent hospitality, could not but feel gratified at finding themselves domiciled, for the time being, in an edifice the property of the profession; and the gratification to which the consummation of many years' aspirations, labours, and anxieties gave rise was amply testified to in the toasts and responses that followed the luncheon. For the first time in its history, the veterinary profession in this country has now a home of its own, and one of which it need not be ashamed. It is true that it is not on the scale—it has not the imposing appearance—of that of most other professions, nor is it even so worthy of our profession as the more ambitious among us would have desired. But it is all our own, and we are not indebted to the Government for aid in its erection. That aid was refused on most frivolous grounds by a Government which has shamefully buried millions of pounds in the desert sands of the Soudan, and squandered away hundreds of thousands of pounds on sentimental political fads. Doubtless, a little assistance would have placed us in a better position and given us a better habitation, while we could have husbanded our own resources, so as to maintain it in a fit condition. Our means have been very meagre, and we have had to eke them out with the greatest care in order to carry the enterprise to its present extent. Indeed, but for the Veterinary Surgeons Act, which added largely to the comparatively small amount collected by the profession, the building, as it now stands, would probably not have seen the light during the existence of the present generation.

Though it does not possess all the attributes which many in the profession would have wished, neither in situation, style, or accommodation, yet it must be confessed that it is a vast improvement on the old tenement where so much of the profession's business was carried out during more than forty years, and the site of which it now occupies, with all its historical and other associations. The council and general meeting room is a fine apartment, ample for all requirements, and when completed in its embellishments will be in every sense of the word creditable. The library and museum rooms are not so large as they might have been to meet the continual demands for space; but the other rooms and business offices are ample, and quite capable of affording every convenience.

On the whole, the Council, and especially the House Committee, are to be congratulated on the success with which they have brought their task to a close; while the profession is to be felicitated on now possessing a local habitation which will do no discredit to the name which it has already made for itself in the United Kingdom. There is no reason to feel other than proud in what has been achieved, in ourselves and by ourselves; and while the Council can now joyously welcome the profession to the annual meeting within its own walls and halls, we sincerely trust that a long and a bright career may be vouchsafed to the Body Corporate which has thus taken a fresh departure. May the business transacted in the new dwelling be conducted in wisdom, concord, and amity, and may it tend to the public good and the prosperity of the profession.

We would remind societies and individuals that there is much yet to be done in the way of furnishing, fitting, and embellishment of their building, and that now is a good opportunity for their assistance in thoroughly completing what has been almost a labour of Hercules, but certainly for most, if not all engaged in it, a labour of love.

ON THE ETIOLOGY OF FISTULA AND CHRONIC SCHIRRUS OF THE SPERMATIC CORD.*

BY PROFESSOR JOHNE.

As a result of castration, a chronic inflamed enlargement of the spermatic cord occurs in horses, but more rarely than in bovines, which prevents the scrotal sack from healing entirely, leaving one or more fistulous openings through which a pustulous discharge is poured out.

Sometimes the scrotal coverings are also implicated. In such cases the coverings become firmly attached to the schirrus, and it frequently happens that large fibrous tumours are the result, which either render the animal useless, or, by spreading to the peritoneum, bring about the death of the patient.

The complaint is known to be caused by bad stable air, and want of drainage of the wound, which causes the retention of pus.

The author has made the interesting discovery that some of these chronic inflammatory enlargements may be looked upon as infectious, and are caused by a fungus, and designated the disease *Funiculitis mycotica chronica.*

The author has demonstrated the fungus to be the cause in four out of ten cases which have come to his notice. In one of the four cases it was a *bona fide* radiating fungus, an *Actinomyces bovis*— the *Funiculitis actinomyatica.* In two other cases the cause was also shown to be a fungus with almost equal certainty.

By these observations the author considers he has proved: 1. That Actinomyces bovis will attack equines. 2. That animals may become infected, not only through the natural openings, but by wounds on the surface of the body.

He further considers it an undoubted fact that the infection can only be communicated to open wounds from the litter which contains the spores of *Actinomycelia* in the straw.

In support of his hypothesis, the author quotes his observations of Actino-

* A Summary from the Veterinary Reports of the kingdom of Saxony for 1884, and Veterinary Progress in 1885. No. 22. Translated by F. Raymond, F.R.C.V.S., A.V.D.

myces in the tonsils of swine; also the reports by Jansen of the power of infection possessed by certain kinds of straw, particularly barley straw.

From these investigations it appears that certain kinds of straw carry spores of radiating fungi, and that they may possibly be conveyed to the wound in the spermatic cord.

The examination of the cord shows the fungi enclosed in small nodules, but they differ considerably from the ordinary appearance of Actinomyces.

The centre of the nodules are found to be much more granular than fibrous, and it is particularly noticed that the plants show very little, and that very indistinctly, of the well-known radiating appearance.

In fact, the characteristic radiating and refractive appearance of *A. bovis* was hardly to be seen at all in most specimens.

The author considers, therefore, that he has to do with a degenerated form of *A. Bovis*, such as has been found before in bovines.

The fourth case differed from the three already described, microscopically, in the following manner :—

The centre of the grape-like bunches of granulations presented small, round, fungoid conglomerations from five to ten centimetres in diameter.

They were surrounded by a sharp shining contour, which separated them from the neighbouring masses of cells, and from each other.

This contour frequently appeared to consist of a homogeneous membrane, which gave the object an unmistakable resemblance to the *Ascoccus Bilrothii*.

Radiation was not apparent; on the contrary, the contents of the nodules seemed to be made up of closely-pressed masses of zooglœa of spheroidal, dull refractive corpuscles, which by their perfect indifference to the action of 30 per cent. sol. of hydrochloric acid, acetic acid, and ether, established their character as microbes.

The author regards it as certain, from what is known of the swelling producing properties of *A. bovis*, that the disease noticed in the four cases quoted was caused by similar fungi.

The author further draws attention to similar observations made since the publication of his remarks, by Rivolta (Giorno di Anat. E fiscilogia 10, 1884).

Rivolta, in a paper entitled "Del Micelio E delle varieta E specie di Discomiceti patogeni," establishes a group of pathogenous *Discomycilia*, which he subdivides into the following species :—

1. The *A. bovis*, Harz. He adds to this species two varieties, the *A. granulosa* and what he describes as the *A. degli ascessi*. Johne remarks that the fungi noticed by him in his first three cases corresponded completely with Rivolta's illustrations of the *A. granulosa*, which Johne called degenerated Actinomyces.

Rivolta further distinguishes—

2. *Discomyces pleuriticus canis familiaris*, Rivolta.

3. *Discomyces equi*, Rivolta and Micellone.

Rivolta asserts that, in conjunction with Micellone, he described this fungus in 1879, and that Bianchi mentioned that it differed from the *A. bovis*, Harz.

It forms pear-shaped cells, which are joined at their base, and thus appear somewhat like grapes without stems; their contents are granular.

They grow (as Johne has demonstrated in *A. bovis*) by budding from the sides of the base or point, and the buds produce daughter-cells, and so on, until the original mother-cells are surrounded by a new growth.

Johne and Rivolta's observations differ in so far that Rivolta has observed but one case in which a fungus he describes as the *Discomyces equi* was undoubtedly the cause; whereas Johne has published three cases in which the pathological phenomena were brought about by what he terms a degenerated form of the *A. bovis*, Harz, called by Rivolta the *A. granulosa*.

FRENCH NATIONAL VETERINARY CONGRESS.

THE second National Veterinary Congress of France was held in Paris at the end of last year, and the following is a summary of the proceedings :—

FIRST MEETING.—*President*, M. NOCARD.

Rinderpest, or Typhus Bovine.—That, in addition to the existing regulations, the following be added :—1. "That the numbering and valuation of the cattle in an infected parish and in neighbouring parishes be made immediately on the appearance of an outbreak, to avoid propagation of the disease, by the appraisers."—Adopted. 2. In the case of animals arriving from countries which can be invaded by Cattle Plague, when one or several ports remain open to importation, to exact that the imported animals be accompanied by a certificate of health, such certificate to indicate from where the cattle were sent, and such other particulars as will easily enable them to be recognised, and more especially the presence of a special mark on some defined part of the body. This certificate must, in addition, bear the signature of the consul at the port of embarkation.—Adopted.

SECOND MEETING.—*President*, M. BOUTET.

Contagious Pleuro-pneumonia.—Agreed, that in all probability *contagion* is the unique cause of this malady. A long discussion took place on the question of inoculation. The following conclusions were arrived at :—(1) That Willem's process, employed as a preventive on healthy animals, has an almost absolute efficacy ; but as a measure destined to diminish the losses in an infected area, this process has but a limited power. (2) That experiments, as well as practice, prove that a healthy animal, inoculated, cannot transmit the disease to another not so inoculated. (3) That preventive inoculation should be advised in all establishments where, by reason of frequent changing of cattle, Pleuro-pneumonia may attack the animals therein. (4) That inoculation should be performed as soon as possible in infected stables, etc., on all beasts which still appear to be healthy.

In addition, the Congress passed the following resolutions :—"That sick or suspected animals must be declared to the authorities without delay ; that the compensation accorded by law must be maintained, as the Congress considers this an excellent method for aiding farmers, already so hard hit by depreciation in prices ; that the official visit be made as promptly as possible, and the slaughter of affected animals be carried out at once ; that the inoculation of contaminated subjects be practised on the spot ; that the bills carrying the words 'Contagious Pleuro-pneumonia,' and affixed at the entrances of infected farms and in other conspicuous places, be henceforth discontinued, as being a measure out of proportion to the danger of the probability of 'out-of-door' infection."

THIRD MEETING.—*President*, M. ARLOING.

Foot-rot in Sheep.—The following modifications of the existing law were proposed and adopted :—(1) When Foot-rot is reported in a district, that the Prefect make a decree declaring the infection of buildings, yards, and enclosures, and of the neighbouring fields, in such district, which are to be pointed out by the Veterinary Inspector. (2) That this declaration entail the following precautions, viz., the existence of quarantine in the buildings, yards, enclosures, and pasturages declared infected, and the prohibition of the entry

therein of sheep or goats in a healthy condition; the numbering and marking of all animals in the prescribed area. Exception: If it be necessary to drive animals to pasture, the road so used must be determined by the Mayor (or local authorities), acting on the advice of the Veterinary Inspector.

M. POURQUIER announced that he had attenuated the virus of Foot-rot, and was enabled, by inoculation, to produce a benign form of the disease. He proposed to establish compulsory clavelisation, but the proposition was rejected.

Scab in Sheep, etc.—The following modifications of the existing law were adopted:—When Scabies is established amongst ruminants or in the horse species (horse, mule, ass), that the Prefect make a decree by which these animals are placed under the supervision of the Veterinary Inspector of the district, and that such affected animals be subjected to energetic treatment within eight days of the declaration, change of pasturage only to be allowed after the application (or employment) of curative measures and the avoidance of all contact with healthy animals, according to the rules laid down in the decree. The restrictive orders to be abolished by the Prefect, acting under the advice of the Veterinary Surgeon, after the complete disappearance of the malady and the disinfection of the buildings, yards, etc.—Adopted.

In addition, the following paragraph was introduced:—"That it is forbidden to remove animals affected with Scabies except to slaughter-houses, and in this case only with the sanction of the Veterinary Inspector."

Foot-and-Mouth Disease.—That the prohibition contained in Para. 7, Art. 30 of the Regulations do not extend to butchers; that in Para. 8 of the same the word *disinfection*, as far as concerns boots, be replaced by the word *cleansing;* and lastly, relative to the removal of the prescribed restrictions, that the Veterinary Inspector himself supervise the carrying out of the measures for disinfection previous to such withdrawal.

FOURTH MEETING.—*President*, M. PICHOU.

Rabies.—In discussing this disease, M. FREGIS considers the slaughter of all *suspected* dogs uncalled for; he would insist only upon the isolation for four months of such dogs when no bite could be discerned. By this the slaughter of valuable animals unnecessarily would be avoided.

M. NOCARD strongly opposed this proposition, as he considered isolation for this period would be quite insufficient, as he has frequently observed Rabies manifest itself even after eight months' duration. He would advocate the maintenance of the existing law in all its rigour, until at least M. Pasteur had rendered his preventive process applicable to veterinary science.

M. PASTEUR, who was received with cheers, stated that inoculation would not always prove the existence of the malady with certitude, for one must draw a distinction between inoculating from an animal destroyed when the disease was at its height, and inoculating from an animal allowed to die from its effects. In dogs destroyed suffering from Rabies, the virus is only found in the spinal marrow; it has not had time to invade the entire nervous system, and consequently inoculation from such might remain doubtful. On the contrary, in an animal which has died rabid, the virus is found throughout the whole nervous system. He concurs with M. Nocard in considering the isolation of suspected dogs for four months inadequate. He further stated, with regard to certain symptoms, "That the rabid dog has little dread of water, whereas man has always this dread. That it is an error to think that they *do not* eat whilst under its influence; they do eat sometimes, and the duration of the disease is thereby lengthened. He has seen a dog remain rabid for sixteen days, instead of dying the second, third, or fourth day, as is generally the case. In treating of inoculation, he warns us against employ-

ing the saliva, as thereby results are rendered uncertain ; the virus should always be sought for in the brain."

With reference to the consumption of the meat of rabid cattle, etc., M. NOCARD proposed the following amendment, viz. :—"That the flesh of ruminants bitten by a rabid dog might be eaten within the six days following the accident."

Several members objected, on the score that the public would naturally resent consuming the flesh of rabid cattle, and the amendment was consequently rejected.

FIFTH MEETING.—*President*, M. PEUCH.

Glanders and Farcy.—(The proceedings under this head are misleading without a previous knowledge of the regulations regarding these diseases. Their translation is therefore not undertaken.)

Anthrax.—M. BOUTET considers that the law is often imperfectly carried out, and that frequently the flesh of animals suffering from this disease is sold for consumption, and further, that the burial of carcases is not thoroughly performed. Considering the vitality of the virus, he would advocate the creation of enclosed burial-grounds.

The Congress urges the necessity of strict adherence to the law, together with the adoption of severe measures for the destruction and isolation of the Anthrax germs by burial and disinfection.

With reference to "Charbon Emphysémateux" (Black Quarter), M. ARLOING, having established the benefits to be derived from inoculation, prays the Congress to urge upon the Minister of Agriculture "the necessity for studying or evolving a method for rendering the inoculation of young animals obligatory in enclosures and pastures where the disease is known to be prevalent."—This proposition was adopted.

SIXTH AND SEVENTH MEETING.—*President*, M. BOUTET.

Sanitary Police—Organisation of Sanitary Service.—The following propositions were adopted by the Congress :—That a consultative committee for all epizoötic diseases be formed, consisting of twenty-one members. That the following be *ex officio* members of the committee : the Director of Agriculture, the Inspector-General of the Veterinary Schools, the Inspector-General of the Sanitary Service, the Chief of the Veterinary Service ; the Minister of Agriculture to nominate eight members, whose tenure of office will hold good for three years, but who are eligible for re-election. The nine others to be selected by the Veterinary Societies of France, also for three years ; the President to be selected by the Minister of Agriculture ; the Chief of the Sanitary Service to hold a veterinary diploma, a national sanitary report to be prepared yearly by him, as well as a *resumé* of the reports of the Veterinary Inspectors, which will take the form of a history of such epizoötics as may have been prevalent. That abattoirs be built in the principal centres of each county, to be under the supervision of the Veterinary Sanitary Inspectors. That at all the important railway centres which are in proximity to markets or slaughter-houses there be a Veterinary Inspector, who, in addition to holding veterinary supervision over the animals which arrive and depart therefrom, shall also superintend the disinfection of the wagons used for transporting same. That such markets be principally reserved for cattle destined to be slaughtered at the shortest delay ; or that, in the event of their being again sent away, they be marked in such a manner as may indicate the purpose for which they may be required.

EIGHTH MEETING.—*President*, M. BOUTET.

Sanitary Regulations referring to the Frontier.—Little of interest under this heading.

NINTH MEETING.—*President*, M. POURQUIER.

Tuberculosis.—M. NOCARD considers that the time has arrived for adding this malady to the list of contagious diseases, but owing to the difficulty of diagnosis in some cases, the following resolution was passed:—"That the Congress, convinced of the necessity of including Tuberculosis amongst contagious diseases, but recognising the difficulty which exists in accurately determining the existence of the malady, invite all members of the profession to join in searching out a means for its more thorough diagnosis as soon as possible."

With reference to the consumption of the flesh of tuberculous animals, M. ARLOING proposes: "That the sale of meat, even of good appearance, from animals affected with Tuberculosis be prohibited in every case where the lesions are found to exist either in an important viscera or serous cavity, and also where there is a tendency to generalisation of the disease, which may be recognised by the afferent lymphatics and adjacent ganglia being implicated in the process," but "in such cases where the carcase is allowed to be issued for consumption, the tuberculous organs and the neighbouring lymphatic ganglions be destroyed."—These propositions were passed.

On the proposition of M. NOCARD, it was advised that milk coming from a source unknown to the consumer be always subjected to boiling prior to ingestion.

Typhoid Fever.—Passed: "That this malady be added to the list of contagious diseases."

Swine Fever.—Passed: "That this disease be added to the list also." M. ARLOING points out that it would be well to determine whether this malady exists in a chronic form, as M. Cornevin would have us believe. M. PICHENEY does not admit the chronic form; he recognises only a benign and a malignant type.

G. E. BENNETT, F.R.C.V.S., A.V.D.

THE GOVERNMENT COMMISSION ON HYDROPHOBIA.

ON page 301 of the JOURNAL for last month, under the heading of Parliamentary Intelligence, our readers would observe that, in the House of Commons, Sir H. Roscoe drew attention to Pasteur's discovery of a successful prophylactic treatment of Hydrophobia, and asked if the Government would appoint a committee of about six persons, eminent in science and medicine, to thoroughly investigate the subject, experimentally and otherwise, Government providing the funds, but the committee to be unpaid. The President of the Board of Trade consented to the appointment of the committee and to the necessary arrangements, and a selection of gentlemen has been made to carry out the proposed investigation. In this selection the veterinary profession will, we feel certain, be pleased to learn that their claim to representation has not been overlooked, and that the duty of representing it has been allotted by the Government to Dr. Fleming, Principal Veterinary Surgeon of the Army. The other members of the committee are Sir H. Roscoe, F.R.S., M.P.; Sir James Paget, F.R.S.; Sir Joseph Lister, F.R.S.; Professor Burdon Sanderson, F.R.S.; Dr. Quain, F.R.S.; and Dr. Lauder Brunton, F.R.S.

NEW MEMBERS OF THE PROFESSION.

AT the meetings of the Court of Examiners of the Royal College of Veterinary Surgeons held on the 22nd, 23rd, 24th, 25th, and 26th of March, 1886, the following students from the Royal Veterinary College were admitted members of the profession :—

Mr.	A. Marriott	Milton, near Northampton.
„	J. Smith	Walham Green, London.
„	Thomas A. Britton	Lewisham.
„	A. H. Jones	Oswestry, Salop.
„	R. A. Lord	Manningham, Yorkshire.
„	A. E. Shorten...	Ipswich.
„	H. B. H. Chambers	St. Kitts, West Indies.
„	G. S. Arkcoll	Leek, Staffordshire.
„	L. Barrett	Wisbech, Cambridgeshire.
„	J. R. Green	Hucknall Torkard, Notts.
„	A. P. Burgon	London.
„	N. Blancard	Port Louis, Mauritius.
„	W. J. Hatton	London.
„	R. W. Dixon	Woolwich.
„	E. S. Gubbin	Launceston.
„	Lewis P. Rees...	Brovillys Court, Breconshire.
„	A. Peele	Durham.
„	E. A. West	Norwich.
„	C. A. Lye	Crewkerne, Somerset.
„	P. G. Bond	Kingsbridge, South Devon.
„	F. Warren	Hadlow, Kent.
„	H. N. Carter	Guildford.
„	A. Hassall	Woolwich.
„	C. H. Bray	Highworth, near Swindon.
„	W. C. B. Revill	Potters Bar, Middlesex.

The following students passed their *Second Examination* on the 29th, 30th, and 31st March, 1886 :—

Mr. E. Larnder.
„ W. M. Reeman.
„ W. E. Mathews.
„ H. F. Sugden.
„ C. Rose.
„ G. Reddish.
„ R. B. Aulton.
* „ W. J. Wagstaffe.
„ A. E. Branch.
„ H. Hall.
„ J. A. Legg.
„ R. Wilson.
„ G. L. Bickford.
* „ J. H. Stidson.

*Mr. J. A. W. Dollar.
„ J. E. Allen.
„ J. Wooding.
„ E. R. McHugh.
„ W. W. Goldsmith.
„ T. B. Baker.
„ J. A. Worsley.
* „ F. W. Watchorn.
„ — Clifford.
* „ T. Wharan.
* „ T. A. T. Hutton.
* „ T. Aulton.
„ W. H. Willsher.

The following students passed their *First Examination* on the 1st April, 1886 :—

Mr. A. E. Gostling.
„ H. Scarlett.

Mr. W. Cakebread.
† „ C. Rea.

Mr. G. B. Wills.
„ T. Yarwood.
„ J. Sherley.
Mr. T. Hibbard.
„ E. H. Millman.

* Marked thus passed with "Great Credit."
† Marked thus passed with "Very Great Credit."

ARTHUR W. HILL, *Secretary and Registrar.*

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF COUNCIL, HELD APRIL 7TH, 1886.

Mr. J. Roalfe Cox, President, in the chair.

Present:—Professors J. W. Axe and W. Pritchard; Messrs. J. D. Barford, F. Blakeway, J. S. Carter, B. Cartledge, H. J. Cartwright, J. Roalfe Cox, E. C. Dray, W. Duguid; General Sir Frederick Fitzwygram; Dr. G. Fleming; Messrs. T. Greaves, M. Mulvey, H. R. Perrins, A. H. Santy, H. C. Simpson, J. F. Simpson, Peter Taylor, W. Whittle, W. Woods, F. W. Wragg.

The SECRETARY read the notice convening the meeting.

The SECRETARY said that he had received a letter from Professor Walley asking that his motion might be again postponed until the July meeting.

Mr. PETER TAYLOR said he objected to such a course being adopted, and he would move that Professor Walley's motion be abrogated for twelve months.

Mr. H. L. SIMPSON said that Professor Walley had asked him to propose his motion at the present meeting, and he had told Professor Walley that he would ask the Council to allow the matter to stand over to the next quarterly meeting; he would therefore move an amendment to that effect.

Mr. CARTER seconded the amendment.

At the request of the President, Mr. Taylor withdrew his motion, and it was agreed that Professor Walley's motion should be allowed to stand over for three months, but no longer.

The SECRETARY said he had also received a letter from Professor Walley requesting that another notice of motion might be suspended. It was as follows:—"That the Principals of the different schools be empowered to admit as students any gentlemen who present educational certificates equal in value to the examination prescribed by the Royal College of Veterinary Surgeons."

The minutes of the last meeting were taken as read and confirmed.

The SECRETARY said he had received letters from Professors McCall, Williams, Walley, Messrs. Pallin and Simcocks, regretting their inability to attend the meeting.

The SECRETARY announced the following presentations to the Museum—an old horse-shoe (presented by Mr. Naylor, of Wakefield), dug up some years ago on the north-west bank of the River Calder in the digging of a drain in the direction of the ancient ford from the old deer park attached to Pontefract Castle, at that time the residence of the Earls de Warren; a framed case of unique specimens of bones; and a photograph of the diseased near foot of a three-year-old colt, likewise presented by Mr. Naylor; and a specimen taken from the liver of a horse some time ago, presented by Mr. William Fever.

On the motion of Mr. DRAY, seconded by Mr. TAYLOR, the thanks of the Council were accorded to the donors for their presentations.

Correspondence.

The SECRETARY read letters from Mr. Beeston, the architect, and from Mr. George Thatcher, the solicitor. It was, he said, evidently the opinion of the solicitor that the mere taking out of a brick at the back showing where the doorway was originally, was not a "sufficient retention of intention."

Mr. PETER TAYLOR thought that the most common-sense method of retaining their rights would be to make a door that they could walk in and out of, and he begged to move that that course be adopted.

Mr. BLAKEWAY seconded the motion, which was agreed to.

The Secretary to again consult with the lawyer.

The SECRETARY said that Mr. Slattery had applied several times for a certificate, having lost his diploma with his military accoutrements while on service in India. The matter had been already before the Council twice. The desired information had now been received, together with a declaration made before a magistrate and a notary public.

Mr. PETER TAYLOR proposed that the Council should grant Mr. Slattery the certificate he had applied for.

Mr. BARFORD seconded the resolution, which was agreed to.

The SECRETARY said he had received a communication from an American veterinary surgeon enclosing £1 4s., and asking to be registered as a qualified member of the College. He said he was registered by the State in America, but he had not supplied any foreign diploma. He (the Secretary) presumed he should return the money and send the usual reply that the applicant did not come under the Act.

Dr. FLEMING thought that there was not sufficient evidence that the gentleman had graduated, and suggested that a letter should be written to him to that effect.

This was agreed to.

The SECRETARY stated that he had received a letter from Mr. Courtois, a veterinary surgeon from Alfort College, saying that he wanted to study at the veterinary school in London, but he considered it hard that he should be subjected to a year's study before he could obtain his diploma.

It was agreed that the Secretary should write to Mr. Courtois stating that if he wished to become a graduate of the College he must conform to the bye-laws.

The SECRETARY said that Mr. William Teeling had written to him stating that he was not satisfied with simply being a registered practitioner, for he thought that under certain sections of the Act he was entitled to become a member. The subject had been brought before the Council some time ago, and the usual reply had then been sent to him saying that he was a registered practitioner, but could not be made a member unless he passed through the study of the schools. He was not satisfied with that, but requested that the matter might be again brought before the Council.

Professor PRITCHARD suggested that the present application be laid on the table.

The suggestion was seconded by Dr. FLEMING, and agreed to.

The SECRETARY said he had received an application from the Royal Society for the Prevention of Cruelty to animals asking permission to be allowed to prosecute a Mr. Stone for misdemeanour. If the Council would permit that Society to take proceedings it would do so at once. He would read a letter from a member of the College to Mr. Colam. [Letter read.]

Mr. H. L. SIMPSON said the Council had nothing to do with the greater part of the evidence given in the letter; it had simply to deal with the statement made by a certain individual that he was a member of the Royal College of Veterinary Surgeons, Edinburgh. He did not know whether it would be

desirable that the matter should be referred to a committee, or whether the Council should take action at once.

The PRESIDENT remarked that Mr. Colam desired on behalf of the Society for the Prevention of Cruelty to Animals to take proceedings on his own account.

Mr. H. L. SIMPSON said in that case he would move that Mr. Colam be permitted to adopt the course which he proposed to take.

Mr. CARTLEDGE seconded the motion.

Professor AXE thought the question for the Council was not one of cruelty, and that it was no part of the duty of the Society for the Prevention of Cruelty to Animals to undertake a function which belonged to the College. The man had culpably misrepresented himself to be a veterinary surgeon, and he would therefore move an amendment that the Secretary be instructed to take such measures as would ensure his being punished for that offence.

Dr. FLEMING said the College was not a prosecuting body, nor had it the funds to prosecute with. The Act of Parliament specified that the consent of the College was to be given to any person or body of persons who wished to prosecute under similar circumstances, and he thought the College ought to be only too glad to accept the assistance which had been offered by the Society for the Prevention of Cruelty to Animals.

Mr. WRAGG seconded Professor Axe's amendment.

The amendment was then put to the meeting and negatived, and the original motion was agreed to.

Professor PRITCHARD proposed, and Mr. BLAKEWAY seconded, that Mr. Colam be informed that, should he require it, the Council would render him every assistance in the prosecution.

The resolution was carried.

Dr. FLEMING said that as the Council meetings were usually quarterly, the time might lapse within which action could be taken in such cases. He begged to propose that those cases should be submitted to the Registration Committee for their consideration, and that if that Committee thought it necessary it should advise the President to call a special meeting of the Council.

Mr. H. L. SIMPSON seconded the resolution, which was agreed to.

The SECRETARY read a letter from Dr. McBride, late Professor to the Royal Agricultural College, Cirencester, stating that he was a Professor of Medicine and Surgery in the Edinburgh Veterinary College, the Agricultural College, Cirencester, the Imperial College of Agriculture, Japan, and was author of various veterinary works, etc., and on those grounds he asked to be made a Fellow of the College.

Dr. FLEMING said that Dr. McBride's application did not come under the terms of the Charter.

It was agreed that the Secretary be instructed to write to Dr. McBride, asking him to come up for the Fellowship Examination.

The SECRETARY submitted three cases of complaint under the Veterinary Surgeons Act from the profession, and was instructed to issue the usual cautionary letters.

Re-election of Members of Council.

The SECRETARY said the nominations for the Council were as follows :— Mr. James Storrar, proposed by Mr. Faulkner ; Mr. H. L. Simpson, proposed by Dr. Fleming ; Mr. Perrins, proposed by Mr. Over ; Mr. Thos. Campbell, proposed by Professor Walley ; Professor Brown, proposed by Professor Pritchard ; Sir Frederick Fitzwygram, proposed by Mr. Dray ; Mr. Barford, proposed by Mr. Wragg ; and Mr. Blakeway, proposed by Mr. Dray. The retiring members were Sir Frederick Fitzwygram, Mr. Simcocks, Professor Brown, Mr. H. L. Simpson, Mr. Perrins, and Mr. Santy.

The PRESIDENT said it was competent to members of Council to propose *vivâ voce* any member whom they liked, irrespective of any written nomination ; and it was also competent for any member to propose any other member in writing within twenty-one days.

Dr. FLEMING was also of this opinion.

Mr. BLAKEWAY expressed a hope that the voting papers, etc., might be sent out under cover, and not merely in a wrapper.

The PRESIDENT said that it had been so arranged by the Council.

Report from the Court of Examiners.

The SECRETARY read the report, which stated that since the last meeting twenty-five new members of the profession had been admitted, twenty-seven had passed the Class B Examination, and nine had passed the First Examination, or Class A.

Report of the Examiners for the Royal Agricultural Prize.

The SECRETARY read the report, showing that the Silver Medal had been awarded to Mr. Alfred Cawdle, and the Bronze Medal to Mr. C. Winteringham.

Fellowship Examiners' Report.

The SECRETARY read the report, which stated that five candidates had presented themselves for examination :—Messrs. E. E. Bennet, A.V.D. ; J. D. Barford, Southampton ; and H. Leggett, Luton, passed successfully.

Report from the House and Building Committee.

The SECRETARY read the report. It stated that Professor Pritchard had offered, and the Building Committee has accepted, a handsome table for the committee-room. The Central Veterinary Medical Society had offered a stained-glass window for the council-room ; and Mr. H. L. Simpson (Windsor) and Mr. J. F. Simpson (Maidenhead) had jointly offered another. Both had been accepted, and would be placed in position before the date of the annual general meeting of members.

Dr. FLEMING asked whether the designs for the stained-glass windows were to be submitted to the Council ?

The PRESIDENT stated that the donors had submitted the designs to the House and Building Committee.

The SECRETARY called attention to the fact that the casements of the windows in the rear of the building had not been made to open. The specification stated that the casements should be made to open, and it was evidently an oversight on the part of the architect. The architect had given a further certificate for £400, and the House and Building Committee had requested him to obtain the lawyer's opinion upon the subject. The lawyer had stated that as the architect had given the certificate the Council had better pay the £400. Of course there would be more than that sum to pay. The House and Building Committee could not obtain a proper debtor and creditor account, and they did not feel justified in sanctioning the payment of £400 in such an irregular way. The architect had already received £75, and applied for a further payment of £60.

Mr. TAYLOR proposed that the matter be left in the hands of the President, the Treasurer, and the House and Building Committee, to make the best arrangements they possibly could.

Mr. WOODS seconded the motion, which was agreed to.

Mr. GREAVES said he had great pleasure in subscribing £50, to be spent in the manner the Committee thought most advisable under the circumstances.

A donation of £10 was given by Professor Axe, to be devoted to the purchase of bottles, jars, and spirits for pathological and other specimens in the museum.

Further donations were also announced—from Mr. J. F. Simpson £20, Mr. Wragg £10, Dr. Fleming £5, and Mr. Mulvey £5.

On the motion of Mr. DRAY, seconded by Mr. TAYLOR, a vote of thanks was passed to the donors for their subscriptions.

Finance Committee.

The SECRETARY read the report.

Mr. DRAY moved that the report of the Finance Committee be accepted, and, if approved, adopted, and that cheques be drawn to meet liabilities.

Mr. WHITTLE seconded the motion, which was agreed to.

Parliamentary Committee.

The SECRETARY read the report.

Mr. PETER TAYLOR moved that the sanction of the Council be given to the Parliamentary Committee to request a member whose case has already been discussed to appear before them and give his own explanation ; and, in the event of it not being satisfactory, to summon him before the next Council meeting and give him notice of the intention of removing his name from the Register.

Professor PRITCHARD seconded the motion, which was passed.

Committee appointed to investigate Clause IX.

Mr. H. L. SIMPSON said the object for which the Committee was formed was to inquire into the operation of Clause IX. and to report to the Council. The Committee had fairly considered the matter, and in his opinion had arrived at a wise conclusion—first, that they had no power to rescind, and secondly, that it was not advisable to apply for a new Charter. It was his opinion that the Council, first of all with regard to justice and then with regard to expediency, would have to do something for those men who, on the 23rd of August, would be disenfranchised. Taking all the circumstances into consideration, he would give the following notice of motion :—"That application be made to the Privy Council for a Supplemental Charter enabling all members who graduated prior to 1876 to retain all the rights they now possess with regard to sitting on the Council and on the Board of Examiners."

Mr. PETER TAYLOR thought that if such a motion were passed it would be most unjust. It would not only stultify the action of the Council, but would seriously retrograde the movements of the College. When the proper time came he would certainly propose an amendment.

Dinner Committee.

The SECRETARY read the report. The annual dinner would take place at the First Avenue Hotel.

Honorary Fellowships.

The PRESIDENT said he thought the Council should celebrate the opening of their new College Home by a graceful compliment to certain gentlemen of acknowledged scientific attainments, and in high estimation with the profession, by admitting to the Fellowship Degree those gentlemen who were, or had been, professors in either of the British Veterinary Schools on the 23rd of August, 1876. He proposed, as a compliment to those gentlemen on taking the Degree, that the fees should be remitted, and that the Board of

Examiners would, *pro formâ*, be pleased to testify on their behalf. He saw no difficulty whatever in carrying out that arrangement.

Mr. PETER TAYLOR seconded the motion, which was unanimously agreed to.

Mr. GREAVES said he was delighted beyond measure with the remarks which the President had made. He was of opinion that the various professors who were not at present Fellows would accept in a courteous and becoming manner the offer of the Council and the honour that was intended to be conferred upon them.

The PRESIDENT, in reply to a remark, observed that it could not be said that those gentlemen had entered in an irregular way. The Council were all satisfied with their attainments without asking them to undergo an examination.

The PRESIDENT gave notice that at the next meeting he would propose, "That Bye-law No. 49 be amended in accordance with alterations to be determined as to the subjects for the examination under Bye-law No. 50."

Professor AXE said he considered the compliment a mark of very great distinction, and had sincere pleasure in accepting it.

Professor PRITCHARD also acknowledged the compliment.

Obituary.

The SECRETARY read the Obituary List.

Mr. DRAY proposed that an honorarium be given to the Secretary for his energetic efforts in connection with the removal of valuables to and from the new building. He was placed in a most responsible position, and had had very increased duties to perform. He (Mr. Dray) expressed his sense of the value of the Secretary's services in the interests of the Council and of the profession generally.

Mr. WHITTLE, and other members, supported the motion, which was carried unanimously.

The SECRETARY appropriately acknowledged the compliment, and expressed his most sincere thanks for the appreciation of his services by the Council.

SPECIAL MEETING.

The SECRETARY said he had sketched out the Annual Report, which included the Financial Statement; he would have to go through it with the President. The Council ordered that it be left in the hands of the President and Treasurer.

The Secretary was instructed to make the necessary arrangements for the appointment of scrutineers.

Mr. J. F. SIMPSON asked whether the voting papers were retained from year to year.

The SECRETARY replied that they were not. They had been entrusted to the care of the scrutineers to dispose of, as they were not further required when the votes had been recorded by those gentlemen.

Mr. J. F. SIMPSON said in that case he would suggest that they should be kept for one year, and at the expiration of that time be destroyed.

Mr. DRAY seconded the motion, which was agreed to.

On the motion of Mr. PETER TAYLOR, seconded by Mr. DRAY, a hearty vote of thanks was passed to the President, and the Council separated.

On this occasion, being the first meeting of the Council in the new building, the President, J. Roalfe Cox, Esq., invited the members of Council and the Court of Examiners to a most enjoyable luncheon in the Museum of the College.

CENTRAL VETERINARY MEDICAL SOCIETY.

The meetings of the above society, held on February 4th and March 4th, were chiefly occupied by a highly interesting address by Professor Tuson on "Disinfection." Sixteen members attended the first meeting; fifteen were present in March; Mr. F. W. Wragg (President) took the chair on each occasion.

In the course of his address, Professor Tuson directed attention to the fact that for efficient disinfection sulphurous acid had long been made use of; but, although so useful and powerful an agent, fumigation was its only manner of employment, and this, he said, was a proceeding fraught with trouble, and not without danger. It had for a great while been his desire to compound a substance which would evolve sulphurous acid when exposed to air, and yet would remain unchanged so long as it was kept in confinement. Chloride of lime was an agent which set free its active principle when exposed to the air, but chlorine, though a deodoriser, had no antiseptie power. The distinction between the terms disinfectant, antiseptic, and deodoriser should be observed; they are too generally carelessly, or indiscriminately used; a disinfectant destroys the organic germs; a deodoriser destroys, or neutralises, offensive or noxious odours; an antiseptic prevents or retards putrefaction.

The preparation introduced by Professor Tuson realised the object he had in view; it consisted of a volatile agent in combination with one which remained fixed; when exposed to the atmosphere it slowly and persistently evolved the active sulphurous acid gas; and a further advantage might be claimed for it, in that it had no smell of its own; it combined the three powers recently alluded to—was a disinfectant, a deodoriser, and an antiseptic. In the powder sulphate of lime and sulphate of alumina were mixed with fifteen per cent. of sulphate of zinc; air or moisture caused a decomposition to be set up between the sulphates of zinc and alumina, which resulted in a steady evolution of sulphurous acid gas; when this met with ammonia in the atmosphere of a stable, it formed sulphite of ammonia; in the moist bedding the same combination occurred, and the sulphite rapidly oxidised, forming a sulphate of ammonia; this remaining fixed in the litter, added appreciably to its manurial value.

When the liberated sulphurous acid met with sulphuretted hydrogen, it decomposed it; the resultants were sulphur and odourless pentathionic acid. The action of the various disinfectants was illustrated throughout the address by attractive and original experiments.

Several practical proofs of the power of the sulphurous acid compound were graphically described. A cattle ship, directly after its arrival at the docks, and while reeking with abominable odours, was sprayed with the liquid, after proper dilution, and in twenty minutes all offensive smell had disappeared.

The liquid disinfectant consists of a strong solution of chloride of zinc impregnated with sulphurous acid, so that both the solid and fluid preparations contain a fixed and a gaseous agent, the model of what a disinfectant should be. It was proved by the experiments which were a few years ago undertaken by Dr. Baxter, at the instance of the Privy Council, that sulphurous acid was more powerful than either carbolic acid or chlorine in destroying the activity of small-pox virus; it was, in short, thoroughly established that sulphurous acid, when properly applied, was a sure disinfectant. No method of employing a gaseous agent has been found by chemists to be so potent as that of making a solution. To show the antiseptic property of the disinfectant liquid, some horseflesh, after a spraying with a dilute solution, one part to fifty, had been preserved for months in the hottest weather, and had then proved wholesome and nourishing food for dogs. Contrasted with other

agents, the disinfectant under consideration is seen to be of the highest value; carbolic acid, though a good antiseptic and disinfectant, is of no use as a deodoriser; chloride of lime disinfects and deodorises, but has no antiseptic power; permanganate of potass is a very useful deodoriser, and is moderately good as a disinfectant, but is useless for antiseptic purposes.

In answer to questions from Mr. ROWE, Professor Tuson said he looked upon the liquid form of the disinfectant as the most effectual. Also he remarked that it would not stain linen or clothing.

Mr. F. WALKER said he could speak most favourably of the preparation; its deodorising effect in a loose box in which he had first tried it was marvellous. He recommended that it should be mixed with some inert powder to prevent waste, and at the same time to distribute it over a larger surface; stablemen in general were not to be trusted to use properly so concentrated a powder.

In answer to Mr. SIMPSON'S questions on this point, Professor TUSON said he had heard of ashes having been used by some to mix with the disinfectant powder; he had in many instances recommended the addition of gypsum; and, among others, the Great Eastern Railway Company had adopted this plan, mixing one part of the powder with two parts of gypsum.

Mr. WRAGG was of opinion that Professor Tuson's liquid disinfectant would be found of great service in the treatment of many cases in veterinary practice; he had made use of it in Quittor, Mange, and Fistulous Withers, and was pleased with the result; he used it with water in the proportion of one part to ten for Quittor and Mange, and one part to twenty for ordinary wounds.

Professor TUSON said he held a letter from Professor Axe, in which he stated his regret that he was prevented from attending the second meeting, as it had been his intention to have detailed the favourable results of his trials of the new disinfectant.

Mr. J. ROALFE COX exhibited to the members present on March 4th, the atlas and occiput of a horse, both bones showing evidence of extensive inflammatory disease. The horse was brought to him on the 15th January with a wound three-quarters of an inch long just below the roots of the mane, and at a distance of seven inches from the crest of the occiput; inspection proved that it had opened from within, and a probe could be passed through a sinus till it reached the occipital bone; in a day or two sanious pus issued; he had ordered warm water injections only, and a strange feature in the case was that some of the water found exit through the nostrils. After the lapse of a month no improvement took place, and the animal could scarcely walk a quarter of a mile without falling, paralysed for the moment. He was destroyed as incurable. It was found that a sinus from the diseased spot communicated with the posterior part of the pharynx. For a month previous to January 15th there was nothing to attract especial attention to the horse beyond slight restiveness when its head was handled. Mr. Cox also laid before the meeting the atlas of a dray horse, which on several occasions had, from a cause unsuspected at the time, been brought back to the stable on account of a temporary attack of paralysis while at work; the supero-anterior part of the bone was so thin and eroded that any unusual pressure of the bridle caused compression of the spinal cord and sudden loss of power.

Mr. H. L. SIMPSON considered the interesting case detailed by Mr. Cox to have been one of deep-seated Poll Evil. The communication with the pharynx was a peculiarity he had never met with. Paralysis was not, he said, a very uncommon symptom in Poll Evil from the pressure of the confined pus upon the spinal cord.

The PRESIDENT said it appeared to him extraordinary that no symptoms were shown at an earlier stage. Judging from the appearances presented, he

considered that three months would have been required to produce the extent of morbid change.

Mr. HANCOCK questioned whether the deep-seated abscess might not have been a result of suppressed Strangles or other pus-forming condition of system.

Mr. F. WALKER considered that the most curious point was the very low site of exit for the pus, the opening not being immediately below, or upon, the poll, as is usual.

Mr. COX had no doubt that the abscess had a traumatic origin, probably a blow on the head.

APRIL MEETING.

A meeting was also held on the 1st April, at the First Avenue Hotel. Ten members attended, including the President.

The principal business of the evening was to have been the consideration and discussion of an essay by Mr. Steel, V.S., A.V.D., on "Relapsing Fever of Equines," a supplementary paper to the one which has already appeared in the VETERINARY JOURNAL. To facilitate discussion, the essay had been printed by the Society, and issued to the members.

As a great portion of the evening was taken up by discussion on other topics, it was decided to postpone the consideration of Mr. Steel's essay to the next night of meeting, so that Dr. Griffith Evans, who, as the earliest investigator of the disease, took great interest in the subject, might be able to attend.

A letter from the secretary of the Border Counties Veterinary Medical Society was laid before the meeting. It announced the intention of that society to give no vote to any Fellow of the College at the election of Council. It was proposed, and at once agreed to, that the letter should "lie upon the table."

ALFRED BROAD, *Hon. Sec.*

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 295.)

Mr. ELPHICK said the reason why he proposed to take active measures, was because he had been told on pretty good authority that the Council of the Royal College of Veterinary Surgeons would shelve the subject unless active measures against it were taken. He was anxious to ascertain the feeling of the members of the profession respecting the clause, and if a Committee was appointed they could, when the replies to the circulars were received, come to some definite decision on the matter. At the meeting of the Scottish Metropolitan Society in Edinburgh, the feeling was very strongly in favour of the clause being rescinded, and a great many of the gentlemen present were willing to subscribe very liberally towards a fund to have a test-case to try the legality of the Fellowship clause over the old original charter. He had no doubt the same gentlemen would be willing to subscribe and try to get the obnoxious part of Clause IX. rescinded, so that all members of the profession might be eligible to sit as Members of Council.

Mr. DUDGEON seconded Mr. Elphick's motion to have a committee appointed.

The motion was adopted by a large majority.

Mr. ELPHICK proposed that the following gentlemen form the committee:—The President, Secretary, and Messrs. Dudgeon, Peele, Mulvey, Elphick, and H. Hunter.

Mr. D. MCGREGOR seconded the motion, which was agreed to.

The PRESIDENT said the next subject for discussion was the Council election, but he did not see what benefit there was to be derived from their

electing a member for the Council if he was entitled to sit only from May until August. Last year this association joined the Northern Association, and were successful in having their nominee elected. He thought it was proposed at their last meeting that they should this year adopt the same tactics. At their last meeting it was proposed that Mr. Elphick should stand as a candidate.

Mr. H. HUNTER thought they might leave the subject in the hands of the committee just appointed to consider the advisability of running a candidate who was not a Fellow. Even Mr. Mulvey would have been ineligible to sit on the Council if he had not, since his election last year, become a Fellow. This seemed a monstrous and stupid sort of thing. He proposed that the question of nominating a candidate be left in the hands of the committee just elected.

Mr. MULVEY seconded the motion.

The SECRETARY said the Northern Associations were willing to amalgamate with this Association again this year, as at the last election. The West of Scotland Association were going to nominate Mr. Campbell, of Kirkcudbright.

Mr. C. STEPHENSON: Is he a Fellow?

The SECRETARY: Yes.

The resolution proposed by Mr. Hunter was agreed to.

Professor ROBERTSON then read the following paper on

INTESTINAL HELMINTHIASIS IN THE HORSE.

Gentlemen,—In the present paper it is intended merely to give a short account of the chief animal parasites—worms chiefly—which infest the alimentary canal of the horse, with a view to their recognition as disturbing agents, their individual identification when observed, and the means which we possess of dislodging these or of combating their hurtful influences.

For a complete account of this subject, its relations to other disordered states, the individual history and mode of development of these organisms, I must refer you to special treatises on the subject.

In studying the history of parasitism, we find that it has, in comparatively recent years, undergone considerable change.

From regarding these existences as developing spontaneously in certain states of the animal body, or as a needful condition in the maintenance of healthy functions, we are now tolerably certain that they are neither the result of diseased conditions nor needful for the healthy carrying out of animal activities. The light in which they are now regarded is rather that of disease-producing entities, owing their existence in all animals to the introduction into their bodies of living seeds or germs, the situations and tissues in which they are found merely furnishing a suitable soil for their growth and development.

Although the existence of intestinal helminths has been recognised as a fact in hippopathology from the earliest periods, neither the extent of this condition, nor yet the number of individual entozoa, with their tendency to induce obscure and fatal intestinal and other disturbance, has, until a comparatively recent period, been brought home to the minds of veterinarians or owners of horses.

If, from the non-success as yet of hippophagy, the dangers to human health are less numerous and direct than in the case of Helminthiasis affecting our food supply in animals, there is yet, in addition to the chance of indirect propagation, the question of monetary loss from illness and death of the most valuable of our animals.

In the horse, the intestinal worms which ordinarily come under our observation belong to—

1. *Cestodes*, or *tapeworms*, of which we have (*a*) ***Tænia perfoliata***, (*b*) ***Tænia plicata***, (*c*) *Tænia mamillana.*

2. *Nematodes*, or *round worms*—(*a*) ***Strongylus armatus***, (*b*) ***Strongylus tetracanthus***, (*c*) ***Ascaris megalocephala***, (*a*) *Oxyuris curvula*, (*e*) ***Spiroptera megastoma***, (*f*) ***Spiroptera microstoma.***

3. *Larval forms* of some insects not otherwise parasitic—(*a*) ***Gastrophilus equi***, vel *Œstrus equi*, and ***Gastrophilus hæmorrhoidalis***, the common bot, and the red, or fundament bot.

Besides these forms, there are in other countries rarer varieties, both ***amphystoms*** and ***round worms***, some of which, from collected facts, appear to be sources of much inconvenience or serious disease.

Etiology and Development.—Although much has yet to be learned regarding the genesis of intestinal worms, their modes of entrance into animal bodies, and their course of development, we yet know sufficient to convince us of the non-spontaneous origin of these organisms, as also of the great probability that none originate from ova deposited by the perfect worm in the canal itself. The ova, we are disposed to believe, must be discharged from the bowel, and, after undergoing metamorphosis outside the former host, are again taken into the animal body destined to afford them a habitation where they may perfect their existence. With the round worms, generally an embryo is developed in the ovum after its extrusion from the parent worm, and from the canal of the host, or it may in a few instances be formed while the ovum remains in the bowel. In this state it may remain for an indefinite period, until the favourable conditions, met with on returning to the digestive tract of its future host, favour the growth of the embryo. From certain experiments, however, it is doubtful if the simple reception of the ovum with the contained embryo is all that is needful to ensure the future perfecting of the entozoon, as it appears that in some cases it is needful that the embryonic form shall reside for some time in the body of an intermediary bearer, usually a lower organism than its final host, ere it can reach perfection of form and development in the latter; that, having entered the intermediary bearer, it either undergoes certain changes there, and on leaving it is received by its future bearer, or that both intermediary bearer and entozoon are swallowed in food or water by the higher animal and ultimate recipient; that, having reached the bowel, the future perfecting of its form is carried out there.

Of the development and growth of the tapeworms as a class we are even better informed.

The ova of these areextruded in collections or colonies from the bowel, in the steady discharge of the segments (proglottides). Each segment being broken up, allows the ova a free distribution, or this may be secured at once, they having been dislodged from the mature segments in the canal of the parent animal.

The ova, on dispersion from their collected form in the segments, are, through medium of food and water, conveyed into the digestive tract of other creatures, only thriving at this stage of their being in animals different from those in which the perfect form is found; there they discharge their embryos. When liberated, these latter attach themselves to the lining of the tube, and gradually, by virtue of special powers and selective affinity, penetrate the tissues and form a limited settlement in particular situations. In these latter locations head and neck are developed with a more or less perfect caudal appendix or bladder. This is the condition known as a *cysticercus* or *cystic tænia* found in various organs of different animals. In this position and stage of growth the organism may remain for an indefinite period, or it may perish and undergo degenerative changes. Each tapeworm seems to possess its own particular *cysticercus*, finding its location in a distinct organ of a particular animal. Some of the cystic forms we know, others have not yet been recog-

nised and differentiated ; ordinarily these cystic tænia find their way into the alimentary canal of the particular animal which forms its ultimate bearer through medium of food or water; and when reaching its final resting-place or locality where its final development is carried out, anchorage is obtained by means of the hooklets in the head, while the caudal vesicle disappears, and extension proceeds by growth of living individuals or segments from behind the head.

In the horse the tapeworms hitherto recognised are neither numerous nor striking from their size, in both these respects differing from their congeners in ruminants and in the carnivora. Although neither from the number of their forms nor physical magnitude of apparently great importance, they have in several instances where encountered in horses been accredited with the induction of serious results.

Round worms, which are of almost universal occurrence, particularly in young animals in indifferent condition, and on rather low-lying and damp situations, are generally acknowledged to be productive of widely distributed and varied disorders, many of which baffle treatment and terminate in fatal results.

Description.—This I will only carry so far as to note the chief characters of the more common varieties with a view to the differentiation.

I. TAPEWORMS.—These, in their maturity, and in the more perfect examples which exist in other animals than the horse, are characterised by the possession of elongated and flattened, or tape-like, forms. They are composed of a head, neck, and body, the latter made up of a variable number of segments (proglottides), of a quadrilateral form, united by means of an intervening softer substance. As a whole, the structure of these may be said to be solid, there being no cavity employed as a digestive tube. The segments spring from the head, so that the more perfect and mature are those farthest removed from the head.

Each of these segments or parts may, with greater propriety, be regarded as a distinct and perfect organism, complete in itself, and capable of exercising reproductive functions, possessing both male and female organs. From the manner of the growth of these individual parts, the closer to the head they are found, the less perfectly are they developed or marked with individuality of form.

Their habitat in all animals is chiefly in the small intestines.

1. *Tænia plicata.*—This is the longest of the tapeworms of the horse met with in this country. Its head is large and square-shaped, provided with four sucking-discs, one at each angle ; the neck is rather short, but always springs from a distinct groove in the head ; the body is made up of narrow segments having a serrated margin ; its length is from six inches to three feet. Its common habitat is the small intestine. Neither for this, nor either of the other tapeworms of the horse, does there appear clinical symptoms which can be relied upon as diagnostic, while the proglottides, being small, are easily overlooked when voided with the fæces, unless carefully watched for.

2. *Tænia perfoliata.*—This is probably the commonest of the equine *tænia.* The head, much smaller than the plicata, is, like it, of a square shape and rounded at the corners, and has two fleshy lobes at its base on each side. The neck is suppressed, the segments of the body imbricated, not serrated, and gradually narrowing to the tail. In length, it is seen from one to four inches ; habitat, large and small intestines.

3. *Tænia mammillana.*—Much smaller than either of the preceding; it has a pointed head, but no distinct neck or basilar appendages. The segments are distinct and wedge-shaped, giving to the parasite a more distinctly tapeworm appearance than the *Tænia perfoliata.* Its length is from one-third to one-half inch, and is found in the colon usually, but, unless carefully looked for, is rarely detected.

There are other forms said to exist by some observers; but, as far as I am able to form an opinion on this point, I see no very strong reason why all may not be regarded as varieties of two distinct forms, the *Tænia perfoliata* and *Tænia plicata.*

Although, as already stated, the clinical symptoms in the horse of the existence of tapeworms can scarcely be said to be diagnostic, this statement is only meant to apply to the fact that the presence of a few of these worms in the equine host may not give rise to unequivocal indications of the existence. The same may, with equal truth, be affirmed respecting a limited number of other helminths in the bowels. That they, when numerous, may give rise, not only to general disturbance, but also to fatal results, experience abundantly testifies. It seems highly probable that much disturbance of a serious nature connected with the presence in the intestinal canal of tapeworms may exist in horses, the true cause of which may be overlooked unless careful after-death examinations have been carried out.

A very interesting and faithfully-recorded epizoöty amongst Welsh ponies, observed by Mr. Lloyd, of Dowlais, Glamorganshire, is fully noticed and commented upon by Dr. Cobbold in his larger work on the "Entozoa"; while a more detailed record of the cases, by Mr. Lloyd himself, in the *Veterinarian* for 1874, will repay perusal. In these cases the most prominent feature was not marasmus, which we so frequently observe in pronounced intestinal Helminthiasis in the horse; the animals affected, and of which so many died, were in fair condition. The indications of disease did not exhibit themselves more than two months, and appear to have been chiefly what may be styled intermitting and suddenly-developed fits of abdominal pain; ability to travel or follow their fellows of the same herd was distinctly lessened, with, in some, coughing, and lameness of the hind limbs, particularly of the left one. Death, as the termination, was usually sudden. In these cases the worms were found entirely in the cæcum, mingled with much fæcal matter.

In all cases where more than one or two animals, particularly young ones at grass or in paddocks, succumb with ill-understood intestinal symptoms, a careful *post-mortem* examination is called for, that the existence of these and several other more common intestinal helminths may not be overlooked.

Treatment.—The existence of tænia being suspected or definitely ascertained, their destruction and removal may be counted upon with fair prospects of success, through the judicious employment of such tæniafuges as oil of turpentine, ethereal extract of male shield fern, infusion of casso, etc. Any of these agents are rendered more certain in their action when, both preceding their administration and shortly following it, a dose of laxative medicine has been employed. If oil of turpentine is employed, it is best exhibited in half a pint of oil, in quantities from one to two ounces, and repeated in twenty-four hours, to be followed by a moderate dose of aloes after a like interval. The extract of male fern, to the extent of four drachms, with a like quantity of oil of savin, may be given in bolus or in gruel, and repeated two or three mornings previous to the exhibition of the final dose of aloes.

II. NEMATODES.—These are more important than the preceding, and the principal characters of the chief round worms met with in the alimentary canal will now receive attention.

1. *Ascaris megalocephala.*—This is the largest, as well as the most common, of the round worms infesting the bowel of the horse.

Form.—Elongated and cylindrical, tapering towards both extremities, particularly the anterior; the oval opening is guarded by three papillæ or swellings, probably analogous to teeth, and acting as tactile organs. The body is smooth, but marked by fine, transverse striæ or rings. Sexes are distinct. The males are from 6 to 8 inches in length, with the reproductive orifice close to the tip of the tail, from which the spicules are sometimes seen protruding.

The females are from 7 to 18 inches in length, and much stouter ; their reproductive orifice is situated somewhat nearer the middle of the body than in the males.

Habitat.—The entire length of the canal, but chiefly in the small intestines.

Numbers.—Usually several, frequently very numerous, in some instances producing serious results through occlusion or other changes in the canal.

This ascaris of the horse, although resembling the *A. lumbricoides* of man and the pig, is yet believed to be essentially different.

Development.—The eggs, having finely divided yolks, being passed along with the fæces from the horse, are conveyed by various agencies, and find their way into ditches, ponds, and other water supplies, or moist earth. Their vitality is not easily destroyed by cold or drought, and under favourable conditions of warmth and moisture produce minute embryos in fourteen days. Having undergone such developmental phases as change of skin, etc., they appear as free swimming *larvæ* or *vermicalis*, in which condition it is probable they are swallowed with water or fresh fodder. On reaching the stomach or intestinal canal of their host, they grow rapidly and reach their maturity in three weeks.

2. *Strongylus armatus*, or palisade worm. This, although of less frequent occurrence than the preceding, is probably, from its peculiar wandering habits, the cause of more varied and serious disturbances. The existence of this worm has been noticed from an early period, and two distinct varieties named —the *S. armatus minor* of the arteries and the *S. armatus major* of the intestines. These are probably identical, only in different stages of development.

Form.—A comparatively small worm having a round head truncated in front, its opening armed with numerous teeth or denticles; body gradually tapering to the tail, which, in the males of the different species of strongylus, is clad with a variably-arranged bursa. The tail of the females is rather obtuse, and the reproductive opening is situated nearly half an inch from the extremity. The males are from an inch to an inch and half in length, the females a little longer.

Habitat.—The intestinal canal throughout, but more particularly the double colon.

Development.—The formation of embryos in the egg seems to follow the extrusion of these from the parent-worm and the host. The larvæ are possessed of considerable activity, and at first bury themselves in moist earth, where it is stated by those who have watched their development, they remain for two or three weeks, undergoing a change of skin, and shortening of their bodies through loss of their tails. Succeeding this transformation they are believed to effect a lodgment for themselves in an intermediary bearer, probably the larvæ of insects, small molluscs, water-fleas, and such-like creatures, providing this shelter. The changes which they undergo in this situation are not well known. Through the medium of drinking water, or of fodder, these parasite-bearing creatures are transferred to the stomach and intestines of their ultimate host.

From the alimentary canal they bore their way to the blood-vessels, for certain of which they have a selective affinity; while occupying this situation they cause serious injury, usually resulting in aneurism. Subsequently, after remaining in these vessels for a time and undergoing certain changes, they seek to return to the intestine, where they arrive at sexual maturity.

The disturbing influences connected with the presence of these parasites are not confined to their action while located in the alimentary canal ; the more extensively distributed, as well as the more serious, are probably those which result from their wanderings from and to the bowel. In young horses, in particular, the tissues of which seem to afford special facilities for

their travelling, they are a fruitful source of fatal results, and they are met with in almost every conceivable situation. I have encountered them in the mesentery, in inflammatory growths in connection with the liver, the diaphragm, and the kidneys, as well as in the vaginalis sheath of the spermatic cord and in the heart sac. In the latter situation they were evidently the cause of death.

Young animals are more liable to be seriously affected with these worms than adults, and they are more likely to be met with when the animals are herded in close contact, in situations where horses have been reared for lengthened periods, seeing ripe ova are, in such conditions, more plentifully distributed than in fresh pastures or where few animals have been located.

3. *Strongylus tetracanthus*, or *four-spined strongyle*.—This parasite, regarded by many observers as less frequently encountered than either of the preceding worms, I am inclined to consider as at least equally common, and when occurring, its effects on the bearer are infinitely more serious than most other helminths which engage our attention. Its presence, although not in every case strikingly attractive, has long been recognised in the horse; but only comparatively recently relegated to the position of a distinct variety, being for long regarded as the young of the *Strongylus armatus*.

Form.—Rather minute, its bulk being well maintained until near both extremities; its head is truncated; its mouth is stated to be armed with a number of denticles, arranged in a circle, outside which is a protuberance or lip furnished with four large spines placed in the form of a cross. The body is smooth externally, and of a bright red colour. The sexes are of nearly equal size, from one quarter to one-half inch in length; the tail of the male is curved slightly forward and furnished with a three-lobed hood; that of the female is straighter and pointed.

Habitat.—In an immature state, in the walls of the colon and cæcum; when sexually mature, in the lumen of the same portions of the intestine. In the former situation, the effect of the invasion is such as to produce extensive change, frequently terminating fatally; the walls of the bowel being much thickened with, in some instances, the formation of disseminated abscesses.

Development.—The ova, which are numerous along with mature worms, are expelled in the ordinary manner from the bowel, while the larvæ—which subsequently escape from the ova—are believed to enter some intermediary bearer, previous to being conveyed into the alimentary canal of the host. From the intestine the immature worms bore their way into the walls of the tube, where they may be observed in great numbers, lying coiled in distinct cavities or sacs, inducing, through their presence, much irritation, leading to fatal congestions and inflammations. In these capsular cavities they remain for a certain time, and undergo certain changes, the more obvious of which are increase in size and, probably, change of skin. Following these alterations, they pass themselves back into the lumen of the intestine, where, rolling themselves, sometimes singly, at others in pairs, in pellets of fæcal matter, they undergo further progress to maturity—finally, quitting this retreat sexually mature, they terminate their existence in the cavity of the bowel. In their perfected condition they are probably less disturbing than when embedded in the intestinal walls.

4. *Oxyuris curvula*, or *pin-worm*.—This worm, of frequent occurrence in the horse, is often considered of trifling moment clinically. It may not be productive of as much disturbance as either of the strongyles previously mentioned, still its power to induce irritation, indigestion, and lowering of vital force ought not to be overlooked. Steady marasmus and impairment of health, I am satisfied, may, in many instances, be directly traced to the presence of these worms.

Form.—Very distinctly made up of two portions, body and tail. The former is smooth externally and fusiform in shape, having fine, transverse striæ. The head is cone-shaped, and the mouth armed with horny plates, or bars, and protrusile lips. The tail, which starts rather suddenly from a gradually-attenuating body, is prolonged, in awl fashion, to a length equal with the body.

Habitat.—The large intestine, the colon, cæcum, and rectum; in the latter, in particular, they are found lodged in their passage from the animal, and where their presence occasions much irritation.

Development.—The ova, on extrusion from the parent worm and from the bowel, do not necessarily require any intermediary bearer in which to lodge previous to settling in the canal of the horse. It seems probable that they are conveyed to their host in a direct manner in food or water, or, it may be, in a dry state. In the stomach or small intestine the shell of the ovum is dissolved, and the embryo set free; in this situation they seem to abide for two or four weeks until they reach sexual maturity, when they proceed onwards to the large intestine, where they remain until discharged in the usual manner. I believe I have seen the eggs, which are frequently encrusted around the anus, and which had been detached from thence and left adhering to prominent parts of the stable, through the rubbing of the affected, being assiduously licked from the object to which they were adhering. In this way, not only healthy animals may be infected, but the host from which these ova have been voided becomes re-infected.

5. *Spiroptera megastoma*, or the *Large-mouthed Maw-worm.*—This worm, with the addition of one or two others which closely resemble it in general and particular characters, although known for some time, have not yet had the amount of attention bestowed upon them which they deserve. We are still somewhat in the dark both as to the relation genetically which these gastric worms bear to each other, and of the mode of their growth and development. Probably, if we were better informed upon the latter point, it might be found that, in a clinical aspect, the entozoa are of greater importance than have hitherto been suspected.

Form.—The *Spiroptera megastoma* is a minute worm, having a whitish-coloured body, filiform in character, and transversely striated. The mouth is round, very capacious, and provided with four lobes, two of which project over the edge of the mouth, and each has two papillæ. The tail of the male is slightly obtuse, spirally twisted, and furnished with membraneous wings, which are striated longitudinally. The tail of the female is straight and blunt; the vulva is placed in the anterior half of the body. The length of the males is about 8 mm.; of the females, about half an inch.

(*To be continued.*)

NORFOLK AND EASTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE sixteenth half-yearly meeting of above society was held on Wednesday, February 10th, at the Red Lion Hotel, Cambridge.

After luncheon, provided by the President, the chair was taken by G. A. Banham, Esq., F.R.C.V.S., Cambridge.

Members present: J. D. Overed, A. H. Santy, J. Hammond, W. Shipley, T. E. Auger, F. Howard, R. S. Barcham (Sec.).

Visitors: F. W. Wragg (London), H. L. Simpson (Windsor), J. B. Martin, J. F. Simpson (Maidenhead), J. R. Cox (London), Hartley (Lincoln), R. T. Hardy (Sleaford), Captain Russell (Grantham), W. L. Fenner (Clare) Page Wallis (Cambridge), J. Mackinder (Peterborough).

Several letters of apology were received from gentlemen unable to attend' including Dr. Fleming, Professor Robertson, Professor Axe, etc., etc.

The minutes of the last meeting having been taken as read, the officers for the ensuing year were re-elected:—President G. A. Banham, re-elected. Vice-Presidents: J. Hammond, A. H. Santy, W. Shipley. Hon. Secretary: R. S. Barcham.

Mr. G. A. BANHAM proposed, and Mr. J. D. OVERED seconded, that Messrs' Fenner (Clare), F. Hewson (Royston), W. F. Wragg (London), Page Wallis (Cambridge), and J. Simpson (Windsor) be elected members of the association.

Place for next meeting was fixed to be held at Norwich in July, in the Royal Show week, so as to facilitate the attendance of members and visitors from a distance.

Advisability of inviting the National Veterinary Association to meet at Norwich or Peterborough was, on the motion of Mr. SANTY, seconded by Captain RUSSELL, arranged to be at Peterborough, Captain Russell kindly undertaking to do all in his power to make the meeting a success, so far as Lincolnshire is concerned.

Mr. G. A. Banham promised to convey the invitation to the National Veterinary Association.

A lengthy discussion took place on the coming election of Councilmen, in which Messrs. Banham, Martin, Cox, Simpson, Russell, Santy, and others took part.

The PRESIDENT then called on Mr. W. HUNTING, of London, to read his essay on

THE PRACTITIONER: HIS RELATION TO THE PUBLIC, THE PROFESSION, AND OTHER PRACTITIONERS.

Mr. President and Gentlemen,—I have one great advantage over most of those present in introducing the subject, viz., by being a stranger to the district and to the society. The consideration of ourselves, I find, is an awkward subject; one has to steer clear of egotism, of impertinence, and of even the suspicion of personality. Appreciating these risks, I am forewarned, and hope to avoid them. I am further assisted by the title not confining the matter to ourselves, but to ourselves in relation to others. Perhaps I ought to have read all that others have said on the subject. I have not; in fact, I have wilfully avoided doing so. There are just two books in which you can find a guiding principle for every action in life. Our relations to others, the Bible tells us, should be based on the principle of "doing to others as you'd have others do to you." Shakespeare lays down a similar principle in the advice given by Polonius to his son Laertes:

> "This above all: To thine ownself be true,
> And it must follow, as the night the day,
> Thou canst not then be false to any man."

Now, to my mind, no philosopher and no man of the world can possibly improve upon these principles, either in their form or substance.

The difficulty which meets us in putting into practice Shakespeare's advice is, to be certain when and how we are to ourselves being true. Prejudice, thoughtlessness, passion, and other conditions, too often deceive us, and we soon find arguments to convince ourselves that our actions are right and proper when they are not. Now, a little consideration in cold blood of our position, with its duties and responsibilities, may help us more correctly to meet circumstances when they arise. I have not come down here to lecture better men than myself. I only *start* the subject, and you can then lecture me.

We practitioners have three bodies to whom we are closely related—the

public, from whom we earn our living ; the profession, from which we derive our right and title to practice ; other practitioners, by whom we are surrounded, and whose lives and ours mutually react for good or evil. How do we acquit ourselves in these relationships? Our duty to the public is to give our best services at a fair price. The mere fact of our practising under the guarantee of a diploma is not, to my mind, sufficient. Our best services require that we should never cease to be students ; that, as our field of observation extends, we should continually increase our experience by bringing to bear upon the facts and phenomena we observe all the scientific knowledge we possess, and that we should not allow our scientific knowledge to become rusty or obsolete, but, on the other hand, make what use we can of the constant additions to exact knowledge recorded in our books and journals.

The art of medicine and surgery necessarily depends upon the science. A man's acts are directed by his thoughts, and no amount of repetition of acts or observations deserves to be called experience unless each act and observation is considered in relation to others of a similar and dissimilar character. The constant administration of certain drugs in certain cases teaches nothing, unless we are sure that the symptoms in each case are due to similar causes ; and even then we cannot fairly value their effect unless we can compare their action with other agents given under similar conditions. Unfortunately, the conditions vary so often that a lifetime may be occupied in arriving at a correct conclusion. Here, then, we have an argument for widening our knowledge, and we do so by utilising the recorded experience of others, comparing it with our own and testing it in practice, if it be not directly opposed to our own observation and reason.

To give our best services to the public, then, requires that we should keep abreast of the times, and no man gives his best who rests in a professional Sleepy Hollow regardless of the progress around him. The man who settles down into a daily routine, contented with the stock of knowledge which gained him a diploma, may be a very respectable citizen and an honourable head of a family, but he does not do his whole duty by his clients—the public. Of the truth of all this the public cannot judge. They can compare him with other members of the profession ; they can appreciate his honesty, his common sense and regularity, but they can form but little idea of how much better he might have been. The public, too, cannot discriminate between tact and talent. They employ a medical man because they do not know themselves what the case is and what should be done. Their ignorance enables a man knowing a little more than themselves to completely conceal his own ignorance. But is this honest? Is not what is often called tact not more truly described as humbug? I think there is a dreadful want of moral courage shown by men who are afraid to say "I don't know." I have seen such a paragraph as this : "Sir John Scalpel was telegraphed for, and arrived by the first train. He has carefully examined Lord Charles, and fears that the accident has resulted in a fracture, but declines as yet to give a positive opinion." Now, that is honest ; but who ever heard of a veterinary surgeon who hesitated to give a positive opinion? We all make mistakes, and surely the public do not expect infallibility from us any more than the sister profession? You will reply that as a matter of fact they do, and will call in some one else if we confess to ignorance. There is some truth in the reply, and we have taught them to do so. We sowed, and we are reaping. I do not ask, and do not expect, a young man without an established reputation to take the first step, but I do ask our older members to act more honestly. They would lose nothing by it ; the profession would gain, practice would be rendered easier for the next generation, and the public would get rid of the miserable delusion that veterinarians ought to diagnose all cases at sight.

Our moral responsibility to the public is great. Vast interests are in our hands. The health of the stock of the country is of national importance, and I am proud to say that the profession as a whole have not belied the trust placed in them. When the Cattle Plague decimated our herds we stuck, through good and ill report, to its contagious origin, and we may fairly claim credit for the means taken to stamp it out. Since that time we have educated the stock-owner and legislator, until now we have a Contagious Diseases (Animals) Act, which has protected us from Cattle Plague and Sheep Pox, almost eradicated Foot-and-Mouth Disease, made Lung Disease a rarity, and which will soon, I believe, save us from the loss entailed by Swine Fever and Scab in sheep.

Such services entitle us to gratitude. Our pecuniary aggrandisement would have been better furthered by the existence of such diseases and our constant employment to treat them. But the agriculturist must be short-sighted indeed who cannot now see how much better is prevention than cure, and, arguing from great to small things, how it is his interest to employ the skilled professional in every other matter pertaining to the health of his stock early and often.

We are gradually extending our usefulness, too, by applying our knowledge and experience to varieties of animals which a few years since were unnoticed. The diseases of dogs now afford a special field of practice for many men, and we all are better versed in canine ailments than was the case twenty years ago. The public expect such knowledge, and willingly avail themselves of it. There is room for further extension. The diseases of game and poultry would well repay more careful study, and those of us who possess opportunities for observation and research in this direction should not neglect them, and should record their experience for the information of others.

Our responsibilities to the public are not only moral but legal, and every now and then a case arises which seems to indicate a very hazy perception of the fact in the minds of some of our members. We are not called upon to be infallible, but it is rightly expected that we take due care and diligence in the performance of our work. It is also rightly assumed that the holder of a diploma, when asking for and accepting employment, should be possessed of the necessary skill to properly carry out what he undertakes.

One of the duties carrying with it great responsibility is the common one of examination for soundness.

We are not legally responsible for the absolute correctness of our opinion. Matters of opinion are, in the nature of things, not clearly divisible into right and wrong. Two men may honestly differ as to whether a spavin on a hock is likely to cause lameness or not. They may even honestly differ in some few cases as to whether a spavin exist or not. In neither case is one of these men actionable for a wrong opinion ; but when a horse whose hock is unmistakably spavined is passed sound—the defect being patent—then the employer has a right to say there was negligence, and to hold the examiner responsible. Or, take another case : two men examine a horse carefully, and one arrives at the conclusion that he is a roarer, the other that he is not. Given that both men adopted proper means to test the point, and that neither is deaf, no action would lie. If, however, one of them had failed to gallop the horse, and thus did not detect the defect, he would be guilty of negligence, and actionable.

But negligence need not be so specific as this. If a man undertook work for a fee which he was clearly incapable of performing, he would certainly be actionable. If I myself undertook a case of parturition in the cow, I feel certain that I should be unable to meet many difficulties which might occur—the animal might be lost, and I should be actionable if it were proven that ordinary skill had not been shown. I had no right to undertake work for which

I was not qualified, but for which my employer was prepared to pay a fee, trusting to my professional status. Our diploma is a two-edged instrument, assisting us to gain credit, and making us responsible for ignorance and negligence.

The examination of horses, or other animals, for soundness is by no means the only work by which we incur grave legal responsibilities. Every opinion we give must be capable of support, and some are even heavier weighted with pecuniary risks than those I have mentioned. I do not know that any such case has ever been tried, but let us just consider a hypothetical one. I am called to see a horse presenting certain symptoms, and occupying a stall in a yard containing, say, a hundred horses. My diagnosis is Strangles. The owner says: "I am glad to hear that, because my foreman thought it was Glanders, and if so I should have had him killed at once." I reply: "You need not be afraid, we will soon get him well." The result is, the horse does not get well—he gets worse. The disease is undoubtedly Glanders, and within six months a number of other horses infected by him become diseased, and have to be destroyed. In such a case I am clearly guilty of negligence, resulting in great loss to my employer, and I should certainly be actionable. A similar argument is applicable to other contagious maladies.

If a veterinary surgeon possess some special ability outside his profession, let him exercise it, especially if it be for the good of the public or his profession as well as himself. Offices and appointments such as some of us hold on Vestries, Town Councils, and Local Boards add to a man's fame, and reflect favourably on his profession in the district. Some of us possess special knowledge of such matters as breeding, rearing, and feeding animals, and by disseminating such knowledge at meetings or through the press much good may be done.

We all try to avoid serving on juries. Every calling, apparently, does the same, and each is able to adduce some reason why its members should be exempted. Now, I hold strongly that this is pure selfishness, and that, instead of following bad precedents, we should show sufficient public spirit to take our turn at this duty to the State—a duty, be it remembered, constituting one of the greatest safeguards of an Englishman's liberty and independence. Were there no exemptions, the call on our time would be light indeed—probably not once in five years. Little as I worship success in practice, I must own that it indicates some good in the individual. He must either be, or appear to be, industrious, clever, honest, respectable, etc., and the sum of all these virtues gives him a position which is good for him and his family. His position reflects upon his profession, and thus, if he does nothing else for it, he indirectly helps it to an improved social status.

This brings us to the second part of our subject—our relations to the profession.

Since the passing of the Veterinary Surgeons Act of 1881, the profession and the practitioners are more closely united by mutual interests than they were before. Now, the profession really protects us—before it did not. We owe it, then, a heavier duty. We are each units in the whole; we are like bricks in a wall, each sharing in the strength or weakness of the edifice.

I have just said that the public estimate of each practitioner reflects upon his profession. It is evident, then, that one duty to our profession is to obtain as high a place as we can in public estimation. There are some matters, however, which are very differently estimated by the public and the profession—on which just one word.

I have heard it said, a practitioner should not dress too "horsey," and should not p[illegible] a very high value on horsey knowledge or acquirements. I hold that a m[illegible]n may just dress as his fancy or his convenience suggests, and that any dict[illegible]ion on such a point is impertinence. As to horsey knowledge

and acquirements, I hold you cannot have too much, if by the term "horsey" you mean—relating to horses. This is very important. An old huntsman once described a man as "the horsiest man on foot, and the footiest man on a horse, I ever saw." It is true a man's trousers may be very tight, and his knowledge of horses very slack ; but it is more likely to be true that the man who dresses like a schoolmaster knows nothing of the horse or his surroundings.

To my mind, it is extremely necessary for all practitioners to understand, not merely the anatomy, physiology, and pathology of the animals they practise on, but also their habits, peculiarities, and general surroundings. Our clients expect us to know more than they do, and when they find we are unversed in what, to them, are elementary details, they begin to doubt whether we really know more than themselves on the more technical points for which they have sought advice.

Now, when a man is really a horseman, he is likely to put in practice his tastes—riding, hunting, etc., naturally are indulged in. Sometimes, too, he does a little racing, sometimes a little dealing. Why should he not? "The tools to those who can handle them," I say. Done properly, these things are right enough. It is when they are done improperly that discredit attaches to the practitioner, and is reflected upon his profession.

But there are direct duties that we ought to perform to our profession. Our knowledge is not the result of our own labours ; it is the recorded and sifted experience of generations. We must not hide our talent ; we must use it and increase it. We owe it to our profession to observe accurately and to record frequently. Our veterinary literature is poorer than it ought to be. The stores of information in the heads of practitioners ought not to die with them ; they should be recorded for the benefit of the profession. Every man cannot write, but all can talk, and these societies are depôts into which you can all pour the fruits of your riper experience.

Every man who has a pupil assumes a grave responsibility, not only to the youth, but to his profession. He teaches him either to observe or to see, without perceiving. There is no greater mistake than to suppose that the power of observing correctly is a natural gift possessed by every one. Very few men possess it, and it is only acquired by culture and the most careful method. Hasty conclusions and superficial observations are natural, and require to be treated like weeds which grow rapidly—kept down. What the profession wants is men who make their observations correctly, practitioners who really possess experience and are willing to add it to the common stock ; in other words, to repay to the profession, with interest, the knowledge they obtained from it.

Our magazines are not supported as they ought to be. Interesting cases are lost for want of a record, and no attempt is made to send or receive short notices of the diseases actually prevailing in different parts of the country. Not only is apathy shown concerning the scientific progress of our profession, but also as to our corporate doings. About half a hundred men really guide the head and hand of our corporate body. They arrange the programme, pull the strings, and the rest of us dance—some in and some out of unison. A little more interest, a little more independence of judgment, a little more active assistance is very desirable.

The local societies are certainly more active and more powerful than they used to be ; but I rather fear they do not give the same attention to the scientific progress as they do to the material movements of the profession.

The National Veterinary Association is a body we should all assist. Its members are collected from a wider area than the local societies, and therefore it brings to bear upon all matters discussed a wider and more powerful influence.

By meetings and unions of all sorts, practitioners must gain; by careful observation and methodical recording we assist each other; by taking an active interest in our profession, and recognising our duties and responsibilities to it, we not only repay a debt, but we add to a common stock which, some day, we may find of the very greatest advantage to ourselves.

By being true to our profession we are certainly being true to ourselves.

And now, gentlemen, I have reached my last section--the practitioner in his relation to other practitioners. All that we can say on this subject is included in the unwritten law of professional etiquette. What is professional etiquette? I hardly care to offer an answer, but I doubt whether it is not very nearly defined as a set of rules compiled to render it very difficult for a young practitioner to capture clients from an older one. Beyond the usual courtesies which regulate the actions and sayings of gentlemen, I am very sceptical of the value of corporate etiquette ; the rest is trades unionism and snobbishness.

Of one thing I am certain, that no unwritten law will prevent a bad man doing dirty tricks, and that no law, written or otherwise, is necessary to regulate the actions of a good man. When two practitioners know each other well, it is rare to hear accusations on either side of breaches of professional etiquette. When complaints are common, I generally find the two men are comparative strangers, and that they have formed their impressions of each other from the false statements made by stupid, ignorant, or malicious third parties. Getting to know your neighbours is the first step to preserving professional etiquette; and then, unless you are an extraordinarily superior person, you will find that they are men possessed of more brains and courtesy than you expected, and it will be easier to do to them as you would have them do to you.

There are two special events which tax our proper relationship to other practitioners, and these are the only ones I care to refer to—the events of being called in for consultation or for a second opinion. There is usually a great difference between these two events. A consultation, with a veterinary surgeon in attendance, means simply that the client thinks two heads better than one, and that the attending veterinary surgeon is willing, if not glad, to have professional assistance. There is no implied discontent on the part of the client, no confession of bewilderment or ignorance on the part of the attending practitioner ; the client may, in fact, be quite cognisant that the man called in to consult is a bigger fool than the man attending, but still wish the two to apply their united wisdom. Now, it seems to me that the last-called-in man too often thinks he is sent for to put the first man right, that the client is dissatisfied with his regular attendant, and that he comes not merely as a second searcher for truth, but as a critic and judge to sit upon what has been done. If this spirit exists it soon makes itself apparent, and then Mr. First-man sets his back up—both become frigidly polite, both fence with question and answer, both think the other is trying to gain an advantage, and a mutually-disagreeable impression is made ; whilst the miserable animal and its disease, like a man between two stools, comes to grief. Of course there are cases occasionally when we cannot but confess that an erroneous diagnosis has been made, or most abominably bad treatment been pursued. If the other veterinary surgeon can quickly be made to see his error or change his treatment, our duty is not to take advantage of his mistake, but to assist him in doing what is best for our common employer. If he persists in doing what we are convinced is wrong, it is equally our duty to quietly object to the line pursued, to indicate what we consider the correct one, and to leave the matter to the client's judgment. In some cases there is room for difference of opinion, in some there is clearly no doubt that one is right and the other wrong. It is no part of a practitioner's duty to shield another practitioner

from blame or punishment, when he knows it is but too well merited. It is equally no part of his duty to make statements or offer suggestions calculated to bias the mind of a client against his regular veterinary attendant.

In the case of second opinions, we often do not know until we have given them that any one has given a previous one. We cannot avoid this, nor is there any reason why we should try to. If we know that another practitioner has given an opinion, the only difference we should make in our conduct should be greater care and exactness in forming our own opinion.

That we should refuse to see a case which has been previously attended, except in conjunction with the other practitioner, is carrying professional etiquette too far. If a man asks us casually to give an opinion on a case being treated by another veterinary surgeon, we should certainly refuse, because it may injure the other, and our treatment is not carried out. If we are asked to see and treat a case, I see no objection to doing so; but it would always be an advantage to the client, the patient, and ourselves to meet the man who had previously treated, so as to hear what he had seen and done. This should be suggested to our employer, and if he does not assent, we need not, I think, hesitate to take the case in hand.

Our relations to each other are chiefly matters of good nature and good understanding. By not knowing each other, misunderstandings occur, and then even good-natured men get to loggerheads. You can't make a silk purse of a sow's ear, and when you meet a man made of the wrong material keep out of his way, and even when he treads on your toes show no sign of irritation, or even feeling—*if you can.*

After some considerable discussion, in which most of the members took part, some interesting pathological cases were introduced, one by Mr. A. H. Santy, a case of Ventral Hernia, which, although very extensive, was completely reduced by the means of pressure.

A hearty vote of thanks having been proposed to the essayist and Chairman, the meeting terminated. R. S. BARCHAM, *Hon. Sec.*

THE WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE third general annual meeting of the above association was held at the Half Moon Hotel, Exeter, on March 18th. J. A. Collings, Esq., the President, in the chair.

There were also present—Messrs. C. Parsons, H. W. Thomas, W. Penhale, Junior, R. E. L. Penhale, J. H. Penhale, F. T. Harvey, G. H. Elder, Ferris, W. Roach, W. P. Chase, and J. P. Heath.

Letters and telegrams of apology for non-attendance were received from Messrs T. Olver, J. Palmer, A. J. Down, W. Ascott, and F. Airey.

Mr. Ferris was proposed by Mr. PARSONS and seconded by Mr. THOMAS, as a new member.

The TREASURER read a satisfactory financial report, which was adopted.

Mr. J. A. Collings was unanimously thanked for his kind, able, and impartial conduct in the chair during his presidential year.

Mr. C. Parsons was unanimously elected President for the ensuing year.

Messrs. Collings, Heath, Thomas, and Olver, vice-Presidents; W. Penhale, Secretary; and G. H. Elder, Treasurer.

The President then delivered the following able inaugural address:—

Messrs. vice-Presidents and Gentlemen,—I thank you very much for the honour you have done me in electing me your third President. I can assure you I fully appreciate your kindness, and know you have conferred on me the highest compliment you can pay to any member of the society. But in doing so, I fear you have not done justice to yourselves, as I am sure there

are many amongst you much better able to carry out the duties than I; but I hope, with the assistance of our Secretary and by endeavouring to fulfil the trust you have reposed in me to the best of my ability, you will not find at the end of my term of office that you have cause to regret your kindness of to-day, or that our profession in general, or this association in particular, has suffered at my hands.

It has been suggested to me, as the three last papers have appertained more especially to disease, that on this occasion a few remarks relative to our society and a few points of general professional interest, would be not only a change but might lead to what is perhaps not the least enjoyable portion of our meetings, viz., a good discussion. But I am afraid in doing this, I must necessarily lead you over an already well-beaten path, and that I shall be unable to advance to you anything sufficiently new to be of interest. As you are all aware, the idea of establishing a veterinary medical association for the Western Counties was started in 1884, principally through the united efforts of Mr. W. Penhale and the late Mr. T. D. Gregory. You will also remember that at the first meeting called at Exeter, on Feb. 7th, of the same year, the society was formed, and the first President and other officers chosen, and eighteen members enrolled. Since then seven others have joined it. Through death and removal we have to deduct four, leaving now twenty-one subscribing members. But there are still many well known to us who have not yet joined our ranks, and whom we should heartily welcome amongst us; so that whilst they would numerically and financially be assisting us, they would also give us the advantage of their opinions in all those matters which may from time to time be brought before us for discussion. But our society was not destined to be long in existence before it was to receive its first check. In the death of Mr. T. D. Gregory, we each lost a respected friend, the profession a valued and honoured member, and this society an energetic and worthy President; and I am sure the vote of condolence you passed was not a mere empty ceremony, but an expression of heartfelt sympathy from every individual member.

But great as was this misfortune, we were again fortunate in being able, at our next meeting, to appoint as his successor Mr. J. A. Collings, in whom a happy choice was indeed made; and we all know that, whether presiding over our business here, or as chairman or host at the social board, he has performed the duties required of him in so peculiarly business-like and pleasant a manner, that we almost regret that one of the rules of our Association is that a new President shall be annually appointed. We must also congratulate ourselves on the highly practical and spirited manner in which the discussions have been carried out. We have reason to doubt that we shall in the future have no dearth of mental food presented to us, and no danger of dying from inanition.

I cannot let this opportunity pass, either, without expressing (and in so doing I am sure I am only the mouthpiece of you all) our great obligations to our indefatigable Secretary. We have all seen the hearty way in which he has carried out his duties, and has by so doing rendered the office of President, if not actually a sinecure, at all events a much easier one than it otherwise would have been; and, unless it is to take the President's chair, I hope he may long be spared to carry on the office he now holds. Our financial position I do not purpose to enlarge on, as our Treasurer has already presented us with the annual statement of accounts.

Passing on to matters of general interest to the profession, I think we have some reason to be pleased with the steady rise that is being made in its status. Although we are yet far from holding the position we should wish to do, we have great reason to be thankful to those gentlemen at the helm of affairs, who give their time, energies, and abilities to us; and although we

cannot always see with one eye, yet I am sure we fully appreciate their desire to so carry out their duties that the profession shall generally benefit.

We have not, I fear, as yet by any means derived, and I speak more particularly as a veterinary surgeon in an agricultural district, so much benefit from our new Charter as was at first anticipated, and, although a future generation may receive greater support and assistance from it, I fear even this is doubtful. At present the one most benefited is the registered practitioner, who is now able to use a title that before he was more than half afraid he was not entitled to, and who in many instances, I know, leads the public to believe that he has undergone some form of examination or other, and that he is now a member of the College. So that, as far as he is concerned, he is raised to a position virtually equal to our own, with the right to be appointed to Inspectorships or any other important offices. But what I think we have much more to complain of, even than this, is that the unregistered men are still called to, and do undertake the charge of cases quite as much as before, and no action is taken to prevent them so doing; indeed, in the absence of a Public Prosecutor, unless the neighbouring veterinary surgeon himself undertakes the unpleasant and invidious task, there appears no one whose duty it is. But even should any one take the trouble to interfere, is there any power to prevent their continuing their pursuits? Cannot they still carry them on with impunity? They cannot, perhaps, claim fees in courts of law, but they can trust to the integrity of their employers, and as, usually, or at least frequently, they are paid at once, they do not fear having to sue for payment. We are therefore, in my opinion, as far as the Penal Clause is concerned, worse off than we were before the passing of the Charter; and it just comes to this, that if we wish to see the profession of which we all profess to be so fond, and ought to be proud of, rise to as high a level as we deem we have a right to demand for it, we must trust to our individual efforts to so qualify ourselves, socially as well as professionally, that we shall deserve the good opinion of the public. If every member would consider that on him personally rests the onus of whether we should, as a body, rise to the position we ought, depend upon it the time would speedily arrive when we should have our desires in this direction fulfilled. The general education of the pupil should also be still further improved, for if the veterinary surgeon is to be a scientific, as well as a practical man, I consider it is impossible to give him too much learning. The better he is educated, the better he will be able to grasp and overcome the many difficulties that, in the pursuit of his studies, he will find lie in his way.

One matter that is at present, and has for a considerable time commanded a great deal of attention, is the ninth clause of the Supplemental Charter. You will remember that it debars after this year all who are not Fellows from serving on the Board of Examiners or as Members of Council. Now I cannot help thinking this a most selfish clause, and one not likely to improve that feeling of good fellowship that should exist amongst us.

We wonder now that more notice was not taken of it before it became law. By the expression of opinion that you gave at a former meeting, I believe you agree with me, and although I feel I could not on an occasion such as this fail to make some allusion to it, yet I don't know that at present anything further can be done to rectify the evil. You will all have seen from last month's journals, that the decision of the counsel employed to give his opinion as to the correct reading of it, thinks that unless a new Charter or Act of Parliament is obtained, only Fellows will be eligible for the positions before mentioned. Now, gentlemen, you may lead an Englishman, but he sometimes objects to be driven; and I am inclined to think that in inserting this clause the very object will be, or indeed has already been, frustrated that it was intended to promote. I believe that many, if this clause were

removed, would be more likely to go in for the degree of their own free will, than they are now that they are told they shall do so or they must give up all hope of attaining those positions that it is only natural that at some period of their lives many of our members might naturally aspire to hold. Does it not seem like oppression that a member who, after a long period of active life, and who has not only in a moneyed sense, but also by his long practical appearance, become peculiarly qualified to represent his fellow-members in the Council, cannot do so unless he again becomes a student, and works up for an examination, whilst he has for many years been an observant student in the best field that is open to any of us? We must not forget, too, that the degree is held by a comparatively small number, and from all appearances that number is not likely to rapidly increase; and as the election to the Council is by vote, surely it can safely be left to the members to return those, whether Fellows or not, who are most calculated, in their opinion, to fairly represent their requirements. It is, however, only by constant agitation that these grievances are to be relieved, and it is therefore perhaps wise that no opportunity should be allowed to pass without making mention of it. Pray understand, I am not speaking against the degree in itself, for I consider that once free from the one objection, it will be of service; and anything that tends to induce further study on our parts is a desirable thing, for it is too often the case that after a student has obtained his diploma, he thinks his education finished, and later on, when it is not so easy to again apply himself, he finds he has made a serious error.

Another subject that we have not heard quite so much about lately, is the question of pupilage; and perhaps there is no point on which such diametrically opposite opinions are held by the teachers themselves. I may say at once that I am entirely in favour of it, and that, too, for a period of at least three years, and not twelve months as so many advocate. How is it possible, I would ask, for a youth going from town life and school at once to college, to understand the general management of cattle and their natural habits; and what more than this can assist him in diagnosing disease? Until a man is perfectly acquainted with animals in health, he is unable to readily grapple with their ailments. I grant you, that if the pupil purposes to eventually enter the Army, or take the management of a stud of horses, or any such position, that he has far greater opportunities to acquire a fair knowledge of this part of his profession at one of the schools, than the one who purposes to seek his living in the country. But our diplomas do not say that we are only fitted for this or that particular branch of our profession, but that the possessor is duly qualified to practise the Art and Science of Veterinary Surgery. Well, gentlemen, is he? Is it not rather to these men—good students and hard-working as they probably have been, and holders, may be, of various medals and honourable distinctions—is it not to the action of such men as these, I say, that the registered practitioner owes the fact that he is held by many worthy of support, rather than the duly-qualified man? And I don't hesitate to say, in many cases, justly so. I am quite sure that to many a practical farmer the want of manipulative ability, and a general knowledge of cattle and their habits, would at once lower any one in his estimation. He cannot, for a moment, suppose that any one so ignorant on these points can be possessed of considerable scientific knowledge, or that if he does possess it, that he is able to apply it to its best uses. It is not a thing to be proud of to be a holder of a diploma, and yet feel that in going into practice you are really inferior to do what is daily required of you, to your more practical, but unqualified neighbour, or as a young man did, to my knowledge, some short time since, call in the aid of a butcher's boy to bleed a cow, that he had made several unsuccessful efforts to do. No, gentlemen, I say this class of our brethren brings discredit to themselves, and undeserved

disrepute to their profession ; and to this same cause is due the continuance of empiricism. Let our members be practically qualified, and they will do more to remove this bugbear than all the penal clauses that can be invented. Many, I know, say he should first obtain his diploma, and then seek practical knowledge ; but, in the meantime, if he is not careful, or has not private means, he is likely to starve or ruin his prospects of future prosperity. Nor do I see if he is to do this, that the Examiners can grant him his certificate, containing, as it would, assertions that they know to be false.

I have heard that there is a probability that in one London school cows are to be admitted to drop their calves, and thus give the student an opportunity to see, at least, a small portion of this individual class of practice. It is most certainly a step in the right direction, and plainly shows that the teachers of this school at least are beginning to think, if they did not before, that some practical knowledge of cattle is necessary to their pupils. If, as some of the teachers affirm, pupils who have served an apprenticeship make the worst students, it only shows one that there have been men sent out into the world with diplomas who ought not to have received them, for if a man is not qualified to instruct a youth in the most rudimentary portion of his profession, he certainly is not capable of upholding his own and his profession's credit by properly carrying out those duties that must be required of him from his clients. I will only say further on this point, that I hope the day is not far distant when compulsory pupilage will be an established fact.

I have already alluded to the fact of registered men being eligible for appointment to inspectorships ; but another idea—the inspection of meat—suggests itself to me. At present, as you are aware, the Medical Officer of Health is the one whose judgment is looked for ; but, in my humble opinion, the veterinary surgeon is the one whose verdict should be taken. He is in every way more likely to be able to give a right opinion than any one else, as it is often only the carcase that can be examined, and it is not impossible for him to make such inquiries into the history of the case as will enable him to arrive at a fair conclusion as to what the animal had been suffering from ; whilst such a course would be entirely out of the power of a medical man. While on this subject of inspectorships, there seems reason to believe that these duties will take an extended form before long, and that dairies will be (in fact, I believe they are now to a certain extent) under the supervision of the local authorities ; and from recent report it appears that it is right this course should be taken. And as we cannot immediately remedy the evils that do exist, it behoves us to, as far as possible, avoid any further error in this direction ; and I therefore think that only duly-qualified veterinary surgeons should receive these appointments, in the carrying out of which great care and tact, as well as sound professional knowledge, will be required to protect not only the general public from any possible transmission of disease from this source, but that owners of animals intended for the dairy from having any undue advantage taken of them, which is quite possible might be the case, if not in the hands of an expert inspector.

I should also, in a cursory way, wish to allude to a matter in which at times there seems to be an awakening as to the evils of, but respecting which we are as a rule far too apathetic, and that is that as yet we are not exempt from serving on juries. It is unfair that we do not in this point stand on the same level as the sister profession, aud here again agitation is needed. I cannot fancy that there is a veterinary surgeon in England who would not gladly sign a petition to this effect, and it could readily be done by one or two members in each county undertaking to obtain such signatures ; and that when completed some arrangement, as might be thought best, be taken to have it presented to the House of Commons ; and should it even again fail to produce good fruit, at no distant future "try again."

For one in our profession to attend at some distant town, whence probably he cannot return at night, and where possibly he may be detained several days, is not only a loss to himself, but may prove an equal one to his clients, and hence indirectly to the public at large.

In cases of veterinary jurisprudence, where we are brought in contact one with another, I fear we do not always acquit ourselves so as to demand public confidence. It is a fact that in what to them appears to be a simple case of soundness or unsoundness, we find our most eminent men going into the witness-box and giving entirely opposite opinions upon it ; and although we are of course at liberty to exercise our own judgment and express our opinions freely, it is necessary that we should always do so with extreme caution. If we look at it from an outside light, it does seem strange that such a variance of views should exist, and yet we always find a champion ready to come forward to endeavour to support a case on either side. You will, I am sure, not think I am making any imputation, but I think great discrimination is frequently needed, and our candid opinion given freely to our clients might at times avoid a lawsuit. I admit it is only natural that, once in a case, we should do our utmost for its success as far as is consistent with the credit due to ourselves and our profession, but no further, and not earn for ourselves the fame that either our consciences are very elastic, or that we are not sufficiently mutually agreed as to be able to say what is or what is not right.

I have purposely avoided making mention of what appears to be deserving of the term of a new era in the scientific medical world—the Germ Theory of Disease. It is a subject that if I felt myself capable of handling, would not be quite in its place in a short paper of this sort ; but I trust one of our members will one day favour us with a paper on such a very important subject, and from which I am sure much benefit would be derived.

There is a matter I would mention as a suggestion, and you will merely take it for what it is worth. It has, I think, been adopted by some societies whose funds are able to bear it, to purchase for the general use of its members, some of those instruments that, from their not being frequently wanted, individual members do not feel disposed to purchase on account of the cost, but which, if belonging to an association such as this, and always to be obtained through the Secretary, might be of service. But, as I said just now, I only hold this out as a suggestion.

And, in conclusion, let me ask you to remember the objects that such societies as this should have in view. It is not only our privilege to watch over the doings of what we may term our Veterinary Parliament, and so from time to time point out to them the assistance we think we require, and are entitled to, and from what source we think it obtainable. Nor is it only from the reading of valuable papers on scientific and practical subjects, and the discussing of them, that we are to look for benefits derivable from such associations. But even more good still it is in our power to obtain ; by meeting together we get some of the rough edges that are, from keeping ourselves too much in seclusion, so liable to form, rubbed off. We lose that feeling of envy and jealousy that too often exists and which can only do harm. Let us feel that in one thing at least we are brethren, and in being members of a noble profession, let us, as one family, do all we can for its advancement and success. Let us remember we must first be united amongst ourselves before we can ask for the confidence of others. Let the one who has attained the highest rung of fortune's ladder feel that it is his duty to hold out the right hand of fellowship to some other deserving but less successful one ; so that by doing a good action to the one, he at the same time shows himself deserving of the position he has attained.

It only now remains for me to thank you for your attentive hearing of these

meagre remarks, the tenor of which you are so well acquainted with, but which, as we are yet in our infancy, we have not had the opportunity of often discussing. I have felt, from the first, my inability to fitly address you, and that in going over the old ground there was great danger of reiteration ; but I have endeavoured, as far as possible, to avoid plagiarism, and trust that from the discussion that will follow you will derive sufficient profit and pleasure to enable you to say that you do not think your time has been altogether wasted in attending this the third annual meeting of the Western Counties Veterinary Medical Association.

A good discussion followed the paper, and it was the general opinion of those present that Clause IX. of the Supplementary Charter should be at once rescinded.

The opinion of the President on the pupilage question was also generally endorsed.

A cordial vote of thanks was warmly accorded the President for his highly interesting address.

It was resolved the next meeting be held in Launceston, on the third Thursday in September, Mr. J. P. Heath kindly consenting to read a paper.

After the meeting the members dined together, and a very enjoyable evening was spent. WILLIAM PENHALE, *Hon. Sec.*

SCOTTISH METROPOLITAN VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 301.)

Although in those days a physician of the two schools of medicine, Count Ercolani declined to enter upon the practice of his profession, from which we may assume that these laborious studies had been undertaken for the purpose of aiding his investigations in the realm of natural history.

The first product of his biological research was published by the Bolognese Academy of Science, in 1842. This was his "Memoir on the Transmission of the Glanders from the Brute to the Human Family." This work, which had involved an immense amount of patient microscopic research, met with an immediate and cordial recognition, and led to the author's election as a member of many of the distinguished academies of Europe. During this period he also assisted in editing the *Medical Science Bulletin* and the *Annals of Natural Science*, which were published under the supervision of Professor Alessandrini.

Ercolani's numerous scientific investigations, and his original and profound deductions thereupon, were sufficient to rank him as a man of extraordinary genius, whose closer acquaintance and friendship were well worth seeking by the scientists of Europe. While his researches were chiefly of a biological nature, he, nevertheless, did not confine himself exclusively to this field, for his intimacy with such statesmen as Count Cavour and Marco Minghetti led him to embrace the study of Politico-Social Philosophy, a familiarity with which was of great importance to him during his subsequent Parliamentary career.

In 1843 he united himself in marriage with Miss Carlotta Sarti, of Bologna. Of this union two daughters were born, but one only reached the years of womanhood.

Previous to 1848, although conversant with the troubled and ever-shifting political affairs of the Peninsula, Ercolani had felt reluctant to identify himself with any issue that would withdraw his mind from his favourite pursuit ; but after Pius IX. ascended the Papal throne, all religious scruples were cast aside, and thenceforth Ercolani boldly avowed his long-dormant principles respecting the necessity for Italian unity, and more especially his utter hos-

tility to foreign rule or interference. His active political career may be said to have commenced with the Austrian invasion of 1848. His service in any capacity whatever was now tendered to the general Government, and in consequence his patriotism and special acquirements were recognised in his selection as Secretary of the Committee of Public Health, which co-operated actively with the national party during that critical period.

Towards the end of 1848 he was transferred to Rome as Secretary to the Supreme Board of Public Health, whose duties he continued to discharge until 1849, when he was elected member of the National Parliament. While serving as a member of the Constituente Assembly under the new Roman Republic, Ercolani directed his most earnest efforts towards the final unification of the several Italian provinces under the sway of one native king. That he was opposed to any form of government but a monarchy, and that his actions at this date were based upon a law of political expediency, is shown in a recent letter to me from Prince Camporeale, of Palermo, in which he says:—"In the Roman Parliament (Constituente Assembly), Ercolani was strongly opposed to the establishment of the Republic, thinking at this time it would have been pernicious (and so it was) to Italy. He showed great energy in opposing all the exaggerated proposals of the Mazzinian party. L. C. Farini, in his 'History of the Roman State,' praises him much. It is true that he took part in the defence of Rome from the first day the foreigners attacked the Republic. From this time Ercolani saw nothing but the necessity of saving the honour of the nation."

Immediate and harsh proscription followed upon the downfall of the new Latin Republic, and, as was to be expected, the name of Ercolani occupied a prominent place in the long list of those against whom vengeance had been decreed. During this dangerous period, while Monarchist and Republican alike were seeking safety in the neutral States, Ercolani made his escape from Rome and sought refuge in the mountains of Bologna. Here he wandered about suffering the severest hardships from hunger and exposure in his efforts to elude the Papal gendarmerie who had been despatched thither to effect his capture or death. In the winter of 1849, he succeeded in escaping from the mountains, and threw himself upon the protection of the Grand Duke of Tuscany. After residing for a time in Pistoia, he found it expedient to change his residence to Florence, where he was comforted by the presence of his family. It was while partaking of a brief repose in this city that he commenced his celebrated "Research, Historic and Analytical, on the Writers of the Veterinary Art."

His residence in Florence was rudely terminated by the action of the Papal Court, for, in the language of his eulogist, "it seemed intolerable that one who had combated the majesty of the Pope should find sanctuary in a neighbouring Catholic State, and so strong was the remonstrance from Rome that the Grand Duke was compelled to expel the patriot from his territory on twenty-four hours' notice."

Quitting Tuscany under the brief and unceremonious safeguard of the Grand Duke, Count Ercolani made his way northward into Piedmont, which was now the only place in the Peninsula where the Italian flag afforded protection. He arrived in Turin early in 1851, and here, in this palatial city, shadowed by the icy domes of the Alps, his fortune reached its most distressing and pathetic stage. As a mournful exile, resting under the all-powerful ban of the Church, with his lordly estates and all other earthly means sequestered, he was doomed to drink "the wormwood and the gall," and to learn in the most sorrowful manner

> "How hard it is to climb the stairs of others,
> And eat the salt of others on his bread."

This stringent condition of affairs may seem hard to understand, yet it should be borne in mind that many thousands of political refugees had claimed sanctuary in Turin, and among these, multitudes were without food or shelter, and, although the public and private benevolence of the city were taxed to their utmost limits, it was a matter of very grave solicitude to relieve the most urgent cases as well as to furnish congenial employment for so vast and unforeseen an increase in the civic population.

In these sombre hours the genius of Count Ercolani could not be ignored, for his eminent acquirements, and the adverse fortune which had driven him hither, gave him a twofold claim upon the consideration of the patriotic Piedmontese, and were the means of obtaining for him the position of "substitute," or Assistant Professor in the veterinary school of that city. Previous to this appointment, however, the citizenship of Piedmont had been conferred on him by a special decree of the King.

Count Ercolani now resumed his researches in natural history, which were directed chiefly towards the lower and more complex groups of animal life. These exhaustive and conscientious explorations into many of the slighted by-ways of nature were the media of developing elaborate facts not hitherto recognised by the scientific world, and gave him a prestige in Italy similar to that won by Darwin among the Anglo-Saxon people. In 1852 he issued the first volume of his "Researches, Historic and Analytical, on the Writers of the Veterinary Art," the second and final volume of which was published in 1854. This was then, and is still, considered one of the most profound works of its scope ever issued in the south of Europe. During this period he also assisted in founding the first journal of veterinary medicine ever issued in Italy. In this work he was ably assisted by Professor Carlo Lessoni, of Turin.

In 1855, during the cholera epidemic in Salluggio, Ercolani generously abandoned his professional duties and hastened into the infected district, where he gave his whole attention to the relief of his fellow-countrymen until the disappearance of the disease. This, so far as I am informed, was the only instance in his career where he made a practical application of his knowledge of medicine.

In such profound respect was he now held by King Victor Emmanuel that upon the reorganisation of the educational establishments of Piedmont, Count Mamiani, the Minister of Public Instruction, was directed to promote him to the Directorship of the Veterinary School of Turin; thus advancing him from the lowest to the senior professorship. Contrary to the general rule, this flattering advancement met with the approbation, not only of the populace, but of the several faculties themselves.

In the winter of 1861 a sorrowful loss fell upon the now prosperous professor and threatened for a time to deprive the world of his further career of usefulness. This event was the untimely death of his daughter Cæsarina, who suddenly yielded her life under an attack of parturition fever. The indescribable anguish and desolation which followed this bereavement induced Count Ercolani to resign his appointment, and as political changes had at last removed the bar of expatriation he resolved upon returning to his native city. In consequence Turin lost her illustrious adopted son, and Ercolani once more set foot in Bologna, after an exile of fourteen years.

Ercolani's resolution to retire from professional pursuits was of no avail, for upon arriving in his ancient home, the Minister of Public Instruction hastened to appoint him Professor of Pathological Anatomy in the Veterinary School of the Royal University. This appointment was followed by others which were both flattering and substantial. He was unanimously elected Rector of the Royal University, President of the Medico-Surgical Society, Permanent Secretary of the Academy of Sciences, Member of the Superior

Council of Public Health, President of the Agrarian Society, Member of the Provincial Sanitary Commission of Bologna, and, for the second time, member of the National Parliament, to which he was subsequently re-elected no less than three times. Among other important movements, he now proceeded to reorganise the School of Veterinary Medicine, which by the liberality of the province and ample Government grants, soon arose to be the first of its kind in Italy, and probably the most celebrated in the world. He also enlarged and greatly enriched the Anatomical Museum founded by Alessandrini, and, in addition, he provided for a systematic and thorough course of veterinary clinical lectures.

Ercolani may not have been the first to teach the doctrine, but he was the first to insist that a correct knowledge of veterinary medicine was as essential to the prosperity of the kingdom as that pertaining to human maladies.

He strove to elevate and dignify this long-neglected science, and finally succeeded in establishing a law which required candidates for veterinary honours to possess the same qualifications that were necessary to admit them into the regular universities in the kingdom. Had he accomplished nothing else in life this alone would have marked his grave for ages. In bearing witness to Ercolani's literary productions, it is enough to say that he was the author of no less than 136 distinct memoirs, embracing anthropology, biology, medicine, and a vast acquaintance with other lofty subjects. Now, when it is considered that many of these productions fill large quarto volumes overflowing with original discoveries and deductions, we are permitted to form an opinion as to the unbounded resources and ceaseless industry of his mind. To specialise a few of his acquirements, it is stated that "he was a decided microscopist . . . and a passionate follower of both medicine and surgery, as well as of natural history, as shown by his numerous discoveries in the fields of normal and pathological histology, of comparative tetratology, of helminthology, and of pathological anatomy and embryology." His numerous discoveries were not presented to the world until they had been subjected to the most penetrating experiments and comparisons known to modern science; then if his deductions were combated, he sustained them with the same intellectual vigour that had characterised their patient and laborious production. An illustration of this nature is shown in his learned controversy with the celebrated Professor Kölliker, of Wurzburg, Bavaria. On the contrary, however, if any of his theories were shown to be at variance or contrary to more recently discovered facts or logical hypotheses, he yielded at once in the most graceful and liberal manner. An instance of this character is referred to by him in one of his letters to his distinguished American translator and correspondent, Dr. Henry O. Marcy, of Boston. In this communication he states that certain objections of Professors Albini, Pallidini, and Ohel, had been of decided advantage, inasmuch as they stimulated him to undertake supplementary investigations, which developed valuable and previously unsuspected features in embryonic life.

Ercolani was equally as loyal to the rights of other authors from whom in his personal judgment the full credit of personal discovery had been withheld. This fact is shown in one of his memoirs, wherein he "avenges" to Senator Carlo Ruini, of Bologna, the honour of having been the first to discover the circulation of the blood. "Noteworthy among his many works," says Professor Cocconi, "are his patient 'Researches on the Genetic History of the Trematodic Worms, and the Adaptation of their Species to the surrounding Fluid,' in which is shown his great skill as an observer and naturalist. 'The Formative Process of the Osseous Callus in the different Fractures of the Bones of Men and Animals;' 'The Interior Structure of the Tendinous

Tissues and that of Fibrous Tissues;' 'The Transformation of the Histological Element in the Animal Organism,' and other works on minute anatomy, attest his skill as a histologist. But the work that obtained most attention from the scientists of both continents consisted of a series of memoirs regarding 'The Intimate Structure of the Placenta in Women compared with that of other Animals.' In these observations he was led to determine the unity of the anatomical type, and the nutritive functions of the fœtus in all the vertebrates." It was the latter work which led to Ercolani's controversy with Professor Kölliker, the results of which form an entire volume of new facts and masterly deductions, which might have remained dormant had not the antagonism of the great German anatomist drawn them into existence.

As to the value of these discoveries, as well as to a brief statement respecting Ercolani's rank as a scientist, I take the liberty of quoting from Dr. Marcy, to whose discrimination the professional men of England and America are principally indebted for their knowledge of this author's ripest production :— "The opinions, at a greater or less length, of this distinguished scientist are quoted in nearly all the modern text-books on the subject, and yet so indifferently in many instances, and even erroneously, that it is evident that authors have not familiarised themselves with the elaborate and painstaking efforts of Professor Ercolani. . . . So simple are these demonstrations and the truths derived therefrom—so radically different are his teachings from the time-honoured views still held and so generally taught, that I have felt the medical profession and students of natural history would gladly avail themselves of the opportunity of carefully examining these original investigations. Especially have they seemed to me valuable, because of the attention which the study of the human placenta has received of late by many careful observers, and still more so since their conclusions are by no means unanimous. . . . By these researches is opened an almost unexplored field in the pathology of gestation; this, too, is essentially the medical and more practical side of the subject. In the abnormal development of the placenta and in the modification of the nutrition of the fœtus will be found causes hitherto unknown of embryonic diseases and arrest of intra-uterine gestation. Therefore it will be seen that the work of the Bolognese professor has an intimate connection and bearing upon anatomy and physiology, chemistry and pathology, embryology and anthropology, biology and obstetrics. It destroys ancient and classic errors; it demonstrates an important new anatomical fact; it teaches a new physiological function, and clearly shows a simple and fundamental plan of embryonic life. The evident impartiality of the author, as shown in his numerous observations, the multiplicity of facts produced, the modest and conscientious expression of opinion . . . appeal to the unprejudiced reader, and carry conviction that the deductions presented are the results of thoughtful labour, and not preconceived theories which he has endeavoured to demonstrate. The establishment of such facts will cause the name of Ercolani to be classed with the great benefactors of science, and be handed down to coming generations, honoured alike with Eustachius, Malpighi, Morgagni, and other distinguished anatomists of the early Italian school."

Reference has already been made to some of the high offices to which Count Ercolani was elected by his admiring countrymen. These, however, were not all the compliments which were bestowed upon him, for a man of such supreme abilities could not be overlooked by those in authority; hence we find that he was frequently called to Rome to confer with the Royal Government for the purpose of organising or perfecting plans of national utility, which only men of his judgment and superior training could successfully undertake. "He was selected as a member of the Royal Commission for the Publication of the Classics in the Province of Emilia; and all the

universities of the kingdom, without distinction between medical and veterinary, twice chose him as their representative in the Supreme Council of Public Instruction."

That King Victor Emmanuel fully appreciated Ercolani's patriotism and his devotion to the literary advancement of the kingdom, is shown by the gracious advancement of the latter to the several distinguished orders of knighthood. He was created Chevalier of the Royal Order of Civil Merit of Savoy, Commander of the Royal Maurizian Order, and Knight of the Crown of Italy. "Ercolani was worthy of all these honours," says Professor Cocconi. "He did not seek them, nature having constituted him modest and disinterested. In manner he was affable towards all, and especially so with the young. He was not rigidly bound to routine, although he was scrupulous in the observation of his own professional duties. He was beloved by the youth whom he had as pupils for more than thirty years. He was cordial with friends and inferiors, and strove for the greatest advantage of all without slighting the interests of any."

Somewhere in one of Count Ercolani's works I remember having seen a passage to the effect that "the laborious conquests of human learning are never lost." This simple but pertinent expression has been verified abundantly by the mutations of 3,000 years, and seems particularly applicable to this author's sublime life and works. It may transpire, however, that some of his works will not survive intact. New discoveries in the same boundless field may modify certain of his brilliant hypotheses, and, moreover, it may be shown that some particular features of his research lack elements now unsuspected, but, nevertheless, essential to their ultimate harmonious adjustment; or perhaps some of his masterly deductions may prove to be too free a rendition of what he undertook to interpret from the marvellous cryptology of nature. All these considerations will be "weighed in the balance," and time will do him no injustice, but will touch these labours with a gentle hand, even as a harper stretches his open palm upon the quivering wires to modify their melodious cadence. Finally, it seems that Ercolani's works are both worthy and certain of earthly immortality, for, so far as human wisdom goes, he builded in accordance with immutable laws.

A study of Ercolani's life, from the abundant memoirs, manuscript material, and letters at command, discloses that the most potent factors in his character were his abiding love and true-hearted sympathy for humanity. He was a nobleman, so born under the decree of a bygone Pontiff; yet noble he was even without ancestral rank, for so he came fresh from the hand of God, and so he lived through a brilliant but somewhat sorrowful life. All he claimed or aimed to be was simply a man, and with men he strove for his daily bread. Hence his works and noble brotherhood are the inheritance of a common humanity, and not of one country or one time, for neither political boundaries nor the unseen walls of different speech can circumscribe his fame, which, like the winds and the waves, gathers renewed vigour as it passes onward within the influence of alien zones until it finally reaches the "four corners of the world," and then—

> "The echoes roll from soul to soul,
> And grow for ever and for ever."

1817 to 1883:—A long, active, and highly honourable pilgrimage for Count Giovanni Battiste Ercolani. But now the great and solemn time was drawing nigh, for at the dawning of the year a treacherous malady (Epithelioma) had seized upon his system, and "the gentle science to which nearly threescore years had been devoted was now powerless to relieve her loving disciple." The last work of his life was completed during the few months that preceded the end. This is now before the world in the form of his letters to Professor Kölliker.

As Ercolani's first undertaking had been for the benefit of the world, so even was his final act, for his splendid library of manuscripts, codices, and rare editions—a fortune in itself—was modestly bestowed upon the city of his birth.

During his final illness, he had on several occasions expressed a desire to be buried without unnecessary ceremony and expense, and, as the subject was taken up by the daily journals, he requested his nephew to communicate his wish to the Mayor ; but the latter, mindful of Ercolani's worth, replied, "Bologna must do her duty, and I cannot prevent the Bolognese from showing the honour due to her illustrious citizen."

Concluding, the PRESIDENT said : Mr. Thompson, of Aspatria, a student of my own, who died the day before his intended marriage, was a hard-working student and a great lover of his profession—too bold, perhaps, in his association with animals, and perhaps, had it not been for this, he would not have met his death. Mr. Walker was the gentleman who succeeded me in Bradford, and who died after being there for sixteen or seventeen years. You all, I am sure, regret their loss and sympathise with their families.

I will now take notice of the political aspects of our profession. There was an article in the last VETERINARY JOURNAL which dealt with the Indian Veterinary Service, and it was there stated that the Indian Veterinary Department was to be diminished materially, and that the duties which ought to be performed by veterinary surgeons are to be performed by others. This is very much to be deplored, and I have no doubt the Indian Government will very soon find out its mistake, for it has followed as a rule that, where large companies interested in large studs, or large flocks and herds, have departed from the employment of the veterinary surgeon, immense losses have followed. I have several instances in my mind at the present time where large companies have ceased to employ veterinary science and employed retired farrier majors, and so on, and I think these will be the people employed in India. I do not wish this to take place, and, if it be true, it is a thing to be very much regretted, and I trust no veterinary surgeon connected with Edinburgh—and that is hinted in the article*—has had to do with this movement in India.

I hope the treatment of veterinary surgeons in this country will soon alter for the better. Look to any continental city, and you find that there honours are heaped upon veterinary surgeons. Was ever an honour offered to a veterinary surgeon in this country? There has only been one in my lifetime. When the tercentenary of Edinburgh University was held, I hoped—not for myself, because the University of Edinburgh would not give me, as I am now situated, at the head of a private school—I hoped patronage and support would at least be given to what was considered a public institution. I thought my *confrère* at the old college would be recognised and receive some honour which he was certainly entitled to, but I was very much disappointed. Our profession is simply ignored in this country, while on the Continent many of the profession are leaders in science, and hold the highest positions in the State connected with science. (Applause.)

Professor WALLEY : There is one duty which ought not to be passed over. I think we should pass a vote of condolence with our friend Mr. Thompson in the great loss he has sustained in the death of his son. I move that the Secretary express to Mr. Thompson the heartfelt sorrow of the Society which they feel for him in the loss he has sustained.

Professor W. O. WILLIAMS, the Secretary, seconded, and the motion was agreed to unanimously.

Mr. RUTHERFORD moved a vote of thanks to the retiring Secretary, which was carried amid applause.

Professor LEWIS returned thanks.

* There is no such hint in the article referred to.—ED. *V.J.*

Mr. CAMERON drew attention to what he termed a case of commercial jurisprudence in connection with cows, where a cow was bought at an auction mart and warranted. The animal afterwards turned out a kicker, and the sheriff had decided that such a tendency could not be included in the warranty. He thought it should have been included to ensure that the dairy-maid could approach the animal with safety, and that the judge had made a mistake on the subject.

The members did not express their views on the subject, and this being all the business the meeting terminated.

The Dinner.

The members of the Society, to the number of about thirty, afterwards dined together. Principal Williams occupied the chair. The croupier was Mr. Burnett, Maybole.

The CHAIRMAN having given the loyal and patriotic toasts, Mr. CUNNINGHAM proposed "The Royal College of Veterinary Surgeons." In doing so he took occasion to point out that the Council was composed almost exclusively of southern members, and an Examining Board similarly constituted could not be satisfactory. They wished the Council every prosperity, and would only hope that they would show a little more common sense in their management. (Laughter.) The toast was coupled with the names of Principal Walley—who, he said, had done very much to popularise their Society—and Mr. Rutherford, the father of vaccination, a subject to which too little attention was paid in the country. (Applause.)

Principal WALLEY and Mr. RUTHERFORD, in responding to the toast, criticised the arrangements of the Royal College as regarded teaching and licensing.

Professor MCQUEEN, Glasgow, also condemned the manner in which the College proposed to encroach on the profession by restricting the members of Council to Fellows, a barren honour that was coveted by none of them.

The CHAIRMAN said what they had to do to test the question was to elect a member of Council, and then have it decided in a court of law whether the Royal College could override the privileges granted to the profession by their charter of 1844. (Hear, hear.)

Mr. WM. ANDERSON proposed "The Scottish Metropolitan Veterinary Society," for which the CHAIRMAN replied, urging them to stand firmly together, and they would overcome the narrow-minded and egotistical ideas of the Fellows of the Royal College of Veterinary Surgeons. (Applause.) The other toasts were "Kindred Societies" and "The Visitors."

W. OWEN WILLIAMS, *Hon. Sec.*

SOUTHERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of this Association was held on the 31st ult. at the First Avenue Hotel, London. Mr. J. B. Martin, of Rochester (President), took the chair, and there were also present:—Professor Robertson (Royal Veterinary College), Messrs. Barford (Southampton), W. L. Simpson (Windsor), Wragg (London), Edgar (Dartford), Legge (Dorking), Hollingham (Tunbridge Wells), Hogben (Folkestone), Shipley (Yarmouth), and Simpson (Maidenhead), etc.

The minutes of the previous meeting were read by Mr. Hollingham as Hon. Secretary, and were confirmed.

In reply to a question,

The CHAIRMAN said that the delay in the proposed prosecution of a man named Tidmarsh, under the Veterinary Surgeons Act, was owing to the

Council. The correspondence with that body took over six months, and consequently the time elapsed within which proceedings should have been taken.

Mr. J. SIMPSON (Maidenhead) said the Council proved themselves to be but human. They fell into the same error the President did, and seemed to be unaware that action must be taken within six months. The President seemed to be quite unaware of that himself until he consulted a solicitor after the consent of the Council had been received.

The PRESIDENT: No; I did not delay so long as that. We should have taken action ourselves, but we could not without the consent of the Council, and when we had their consent I went to a solicitor at once. The Council have their solicitor, and had the same opportunity of ascertaining the law that I had. We were willing to spend the money as a test case if they had given their permission.

Mr. SIMPSON (Windsor) defended the Council. The Act of Parliament was a new one, and it was necessary to act circumspectly under it. The Council only met quarterly, and no doubt Mr. Martin's letter was considered at the first meeting after its receipt. Then it had to be referred to a committee, and the committee had to report at the next meeting of the Council. As soon as that was done Mr. Martin was communicated with. This was the first case under the Act, and it did not say a great deal against the Council that time was allowed to elapse, because, as a matter of fact, it was not stated in the Act that proceedings must be taken within six months. This was regulated by the Summary Jurisdiction Act. No doubt, now there would be a committee appointed to sanction proceedings in such cases without reference to the Council. It was a misfortune that there should have been a miscarriage of justice in this case, but he (Mr. Simpson) did not think the Council deserved the castigation they had received at the hands of Mr. Martin. He did not believe the Council did things in a slovenly or unbusinesslike manner; its duties were, he believed, managed properly, but public bodies could not move like individuals.

The PRESIDENT: Do you think it would be wise for the Council to have a committee to consider urgent cases like this?

Mr. SIMPSON: I think the Council will have a committee for these things.

Professor ROBERTSON suggested that the attention of the Council should be called to the delay which had occurred in this instance, owing to which a very good case had fallen through.

After some further discussion, the following resolution was, on the proposition of Professor ROBERTSON, seconded by Mr. WRAGG, unanimously adopted: "That a communication from this society be sent to the Council of the Royal College of Veterinary Surgeons, drawing attention to the fact that the prosecution of Tidmarsh was allowed to fall through in consequence of the proceedings not having been commenced within six months of the commission of the offence, and urging that in future the Council should take such means as will ensure matters of this kind being promptly dealt with."

The CHAIRMAN then said it had been arranged that some amalgamation with other societies should take place as regarded the election of Members of the Council. In the North an organisation had been adopted which excluded London and South County people from acting as Councilmen, and now it was proposed that the southern societies should organise themselves for the purpose of voting for Councilmen. The societies which had agreed to amalgamate for this purpose were the Central, the Royal Counties, the West of England, the Norfolk and Eastern Counties, the Lincolnshire, and the Southern Counties. It had been arranged to support Mr. Barford and Mr. H. L. Simpson in May, only these two gentlemen having been named so that there might be a certainty of success.

Mr. WRAGG proposed that this society amalgamate with the other societies mentioned in trying to secure the return of Messrs. Barford and H. L. Simpson to the Council in May.

Mr. EDGAR seconded, but suggested that the resolution should have been so worded as to cover a permanent amalgamation for the purposes of these elections.

The CHAIRMAN said there was a tacit understanding that the amalgamation would be permanent.

The resolution was carried.

The PRESIDENT then proposed that Mr. Barford be elected President of the society for the ensuing year. Mr. Barford had taken as much interest in the society as any man; he was one of its first members, and was entitled to the honour of presiding over its deliberations in the ensuing year.

Mr. SIMPSON (Maidenhead) seconded.

Mr. BARFORD said he did not wish to shirk the duty, but he would rather decline the office if there was any fear that the distance he lived from most of the other members might be a disadvantage to the society.

The PRESIDENT replied that Mr. Barford was as regular an attendant at the society's meetings as anybody.

The proposition was carried unanimously.

The HON. SECRETARY proposed that Messrs. Wragg, Legge, Martin, and Edgar be the Vice-Presidents for the ensuing year.

Mr. BARFORD seconded, and took the opportunity to very sincerely thank the society for electing him its President. He would be pleased to do what he could to further the interests of the society, though he felt great diffidence at having to follow so very able a man as Mr. Martin.

The proposition was carried.

Mr. WRAGG proposed the re-election as Hon. Secretary of Mr. Hollingham, who had carried out the duties in the past very efficiently.

Mr. HOGBEN seconded the proposition, and it was carried.

Mr. HOLLINGHAM proposed that Mr. H. Hogben be Treasurer for the ensuing year.

Mr. BARFORD seconded. Carried.

Mr. HOLLINGHAM moved, and Mr. WRAGG seconded, that the next meeting of the society be held on the 30th of June, at Southampton. Carried.

Mr. SIMPSON (Windsor) moved that the dates of the society's meetings be forwarded to the *Veterinarian* and the VETERINARY JOURNAL as soon as fixed.

Seconded by Mr. BARFORD, and carried.

Professor ROBERTSON then read a paper on

REMARKS ON THE NATURE AND ETIOLOGY OF SOME DISORDERS OF BONE NUTRITION IN ANIMALS.

Until a comparatively recent date, the opinions regarding diseases of every description affecting bone tissue were such as tended to place them outside the range of morbid activities met with in other structures. We are now, however, disposed to look upon such changes as in all essentials similar, wherever their situation, only modified by the speciality of the structure of the tissue involved. In bone the processes known as *disease* and *repair*, tending severally to destruction or the attainment of sanative results, are probably the same in all essentials to like actions carried on in other varieties of connective-tissue structures, the filling of the meshes of this tissue in the former only acting in a modifying manner.

Even to careful observers, it is probable that the most attractive feature in all disturbances occurring in connection with bone is its chronicity. This is more distinctly noticed in all disorders of bone tissue which are in any way

related to the process known as inflammation, either as an initial diseased process or as a sequel of it. This fact of chronicity in the development of disease, and the relation of the mineral matter to the tubular and reticulated organic constituent, is so far an advantage, from affording us a perfectly tangible and wonderfully enduring exhibition of the effects of the diseased actions. This, we find, affords us the opportunity of studying disease in its results, after it has passed away or terminated in the death of the subject, more perfectly than in most other tissues.

In directing your attention for a short time to-day to some disorders of bone tissue to which, probably, all classes of our patients are liable, I will eliminate from our consideration that great group of disturbances which are usually spoken of as inflammatory in their nature; also all which ordinarily follow from this perverted action. This great group in all our patients may, in a general sense, be regarded as resulting from *traumatism*, in some form or another.

Those upon which I desire to offer some remarks are dependent for their existence on causes more properly systemic or constitutional, or at least non-traumatic. Some of these operating agencies are, in particular instances, appreciable and not difficult to comprehend; some appear as congenital, being received as an inheritance in some way from progenitors, while others have undoubtedly been acquired during the lifetime of the suffering animals themselves. Many are occult, difficult to connect with exogenous or endogenous conditions, while all are, in the details and modes of their operation, liable to be erratic, and are apt to be misinterpreted.

From the frequency of their occurrence during the primary growth of bone structure, as well as because these disorders are essentially those of disturbance or change in development, we generally speak of those non-traumatic lesions as "disorders of nutrition."

Frequently these disorders of bone nutrition are encountered in the different varieties of our patients as enzoötic rather than as sporadic affections; in their course, also, they are annoying or destructive—not from the number of their victims merely, but from the difficulty we find in connecting them with what we regard as adequate causes.

Although we may not, in many instances, be able to particularise the precise agent operating in the induction of these disorders, or to follow in detail the method by which it ensures its destructive results in the animal affected, there is yet very evident, in many cases, the existence of certain lines along which these adverse influences travel. With certain classes of animals artificial interference, both as respects breeding and general management, is borne with comparative impunity. Those which submit to this interference with greatest reluctance are generally the largest sufferers from this class of bone diseases. Or this fact may be stated in another form—viz., that the more extensively we manipulate animals, and the greater our interference with their ascertained dispositions and habits, the more we render them liable to disorders of bone nutrition. This statement seems borne out by observation over a large field—whether it be with animals which are usually recognised as the subjects of domestication, or those which mere convenience or pleasure has removed from freedom to captivity. A recollection of this fact, in dealing with the condition as affecting our particular subjects, is of service in the framing of preventive measures on a large scale.

Although, then, every species and all varieties of animals may be regarded as liable to these disorders, we find that in daily experience they are differently brought out and exhibited amongst the larger and smaller animals of both farm and kennel.

In further dealing with this matter, I will confine my remarks (1) to that disturbance in bone nutrition known as *Rickets*, (2) to the peculiar fragility

and want of cohesion in bone structure, indifferently spoken of as *Mollities Osseum* and *Fragilitis Osseum*; (3) to the state of rarefaction in the bones of the horse known amongst veterinarians as *Osteo-porosis*.

1. *Rickets.*—From 1650, when Dr. Francis Glisson published his treatise on Rickets, many able monographs on the disease, as appearing in the human subject, have been published, and much time has been spent in investigating its pathology and treatment. In the lower animals, although the disorder has long been recognised, it has attracted less attention, probably from the fact, first, of its appearing less frequently amongst those which have been long subjected to domestication, and, second, that, when occurring, its fatality was not such as to attract universal attention.

In medicine, as in some other branches of study, there is a tendency at the present to simplify classification and to gather under one term conditions of closely-allied natures. This tendency you will find exemplified in attempts which have been made to group, under the name of *Rickets*, several disorders of bone nutrition hitherto looked upon as distinct. How far this may be warranted, we will be better able to judge when the conditions under which these disturbed activities are met with have been considered. If we adhere to the definition of the term, that *Rickets* is essentially a condition in which there is, with much proliferative activity, an extensive preparation for ossification, with a limited performance of the process, we will be led to regard it as truly a disease of infancy and youth only, and to exclude from its embrace those changes in the bones of the adult which a less restrictive definition would include. Regarding Rickets merely as a form of Atrophy, the more obvious changes in which are a disturbance of the relations which, in normal bone, exist between the earthy and organic materials, with some alterations as to character, and more as to amount of the former, a tolerably rational explanation may be afforded of the varieties of its manifestations, even when we include those changes in adult bones not usually grouped under the disease. In these considerations there will fall to be regarded the age of the animal, so that with little reservation we come to speak of *Rickets of early life*, *Rickets of early maturity*, and the *Rickets of adult life*.

Subjects of Rickets.—As usually understood, this disorder of bone nutrition is chiefly to be looked for in early youth. It may be encountered amongst every species of animal which comes under our observation. The species which is the greatest sufferer seems to vary with location, breeding, diet, and other extrinsic influences. Although appearing in early life, it has not, I believe, been regarded as congenital. This I am disposed to doubt. In lambs, where, on certain soils, Rickets is very destructive, and in them chiefly affects the axial skeleton, exhibiting its characteristic feature in the form of Paralysis, many of these are born unable to rise, most probably from the same cause that the paralytic symptoms develop at a later period of life—viz., from spinal pressure, the result of bone changes in the segments of the neural canal.

In all animals in which I have observed the progress of this disorder, with the exception of young sheep, the bones which have been the subjects of change have been those of the appendicular skeleton chiefly. With lambs the difference of situation is marked; here the axial skeleton is mainly invaded. Owing to this difference of the bones attacked, we account for the variety and peculiarity of the symptoms exhibited.

Outward Manifestations of the State.—Seeing there is a wonderful agreement amongst all observers as to the outward manifestations or symptoms of the disease in all our larger animals, I will spare you their recital. The most characteristic are the changes in appearance and character of the long bones. With some the shafts are atrophied and distorted, partly from inability to support the superincumbent weight, and partly from muscular contraction.

Others, again, do not exhibit this bending of the bone in its entirety, but all are marked by swelling of the joints, from enlargement of the epiphyses. With many there is evidence of unrest, probably from pain in the bones, and more or less lameness. In a few there are decided indications of general derangement and ill-health, with special disturbance of digestion ; while in well-established cases the general appearance of the creature, and the impression conveyed to the observer, is that of stunted or distorted growth and imperfect development. Rarely do the other bones of the skeleton, although affected, exhibit changes so extensive or attractive; nor do we usually observe that the bones of the trunk suffer distortion to such an extent that the contained viscera of the different cavities are either displaced or permanently injured. Amongst lambs, where the locality of the lesion is somewhat different from what we observe in dogs or the larger animals, the chief and diagnostic indications are those which proceed from disturbed motorial power. In many instances where the disease appears as an enzoöty, numbers of lambs, although of full size, and carried the full time, are never able to rise, from their birth. With the greater number, however, the evidence of defective movement of the posterior parts most distinctly exhibits itself when the lambs have reached a few weeks old, while a certain portion may appear well enough for a much longer period. In cases where this affection is known to exist, a little careful watching will soon detect the affected. On any little excitement or attempts to gambol, the animals will stagger or fall over ; while, in making an attempt to run, the hind parts cannot be brought forward in conformity with the fore limbs, nor with the will of the sufferer. From the difficulty of moving with ease, lambs suffering from this disorder are disposed to rest much, only rising in response to the calls of nature. When other adverse conditions of a climatic condition exist, many of these creatures become affected with joint disease ; the disposition to rest on the damp ground, together with defective alimentation, favouring the induction of joint-disturbance.

As regards older sheep of the first year which become affected with this weakness of the loins, they are chiefly those which from their infancy have been reared, for intervals at least, on the situations subject to it, or whose dams during pregnancy have been similarly treated. The disposing influences have not, in their case, been powerful enough to determine its appearance when lambs ; but being to some extent continued, will still, as hoggets, claim a certain number of victims.

(*To be continued.*)

NORTH-WESTERN VETERINARY MEDICAL ASSOCIATION OF MINNESOTA.

THE North-western Veterinary Medical Association held its fourth meeting in the lecture-room of the North-western Veterinary College, Minneapolis, Minnesota, on December 8th, 1885.

The President, Dr. Lyford, in the chair. There were also present : Messrs. Geo. Sermon, J. J. Bradley, B. A. Pomeroy, Richard Price. Apologies for non-attendance were received from Messrs. D. S. Browne, Genoa, Ill.; J. F. Ryan, Chicago, Ill.; Wm. McEachran, Winnepeg ; R. C. Mason, Winona, Minnesota.

Messrs. R. C. Van Nest, C. O. Burnham and S. D. Brimhall were elected members of the Association.

A communication was then read from Mr. E. R. Forbes, U.S.A., stating that the petition to the Adjutant-General (a copy of which had been received for signature by the members of the Association at its previous meeting) had been disapproved, and that a new one would be drafted by Mr. J. Tracy, U.S.A., petitioning the elevation of the present status of veterinary surgeons

in the U.S. Army, copies of which will be forwarded to the Association for signature.

Dr. C. C. LYFORD then read the following paper on

"BURSATTI."

MEMBERS OF THE ASSOCIATION, CONFRERES, AND STUDENTS,—Before entering upon the consideration of this subject I cannot but preface with a few words relative to this important disease. For the interest that should be taken in this disease by the members of this Association should be, at least, in proportion to the extent of the disease in this locality, which is by no means limited to the number of cases which appear each season. So far as I have been able to learn, it has not been recognised elsewhere in this country, or in any other country except India, although here, in but a limited area so far, it seems to be confined to the neighbourhood of Minneapolis and St. Paul, with the exception of a few isolated cases, which migrate each year.

Under these circumstances the question naturally arises, Why should this disease appear in two localities so far distant from each other as India and Minnesota, and under such different circumstances, and without the least sign of the disease in any of the intermediate localities? How long this disease has been prevalent in this vicinity is more than I can as yet ascertain. The disease has, prior to Mr. Robertson's late work, only been known of through our veterinary journals, especially the one edited by Mr. Fleming.

The true nature of Bursatti seems to be still a mystery, hence should receive our closest attention and consideration: 303, Robertson's "Medicine." Its name is derived from the Indian disease having connection with the rainy season, hence "bursat" (rain.) There seems, even now, a difference of opinion as to in which season it is most prevalent. Some think before, others after, or during the rainy season; so far as my experience goes, in this country it seems to make little difference, whether before or during the rainy season, or even if no rainy season follows, for it seems to return each year with hot weather at the time flies are most prevalent.

I first noticed this disease during the summer of 1880, appearing early in June, and lasting until late in the fall, some cases into the latter part of November. I met with but few cases during this season, and most of them of a mild type. The summer was comparatively dry, though unusually warm. The following summer of 1881 was about as dry until September, when it was followed by a very wet season, lasting some three months. Flies were unusually bad from early in the season, and cases of Bursatti were more numerous and aggravated than the year previous, commencing late in May, and some lasting until snow fell. Many of these cases were of a very severe nature, some of the ulcers reappearing on the same subject as the year before, and a few on the old cicatrices.

No. 1. This case was a pony, the entire right side of whose face from eye to nostril was, at the beginning, studded with a number of small Bursatti ulcers, which later became confluent, the surface of which was beset with small yellow fibroid bodies, some of which became caseous and even calcareous, varying in size from a pin's head to a filbert. Upon the left hind leg was also an extensive ulcer from hock to fetlock on the entire outside, having originated from an injury caused by a broken shaft abrading the surface, Bursatti having subsequently set in. This case being in my infirmary for six weeks, I had a good opportunity to try different remedies, and learn how difficult the disease was to manage even under one's own supervision, and under circumstances which would be otherwise favourable, for not only would this animal abrade and lacerate the surface during the

day when the flies were bothering, but whenever he could slip, break, or otherwise loosen himself from his halter, he would then rub and bite the parts until they were a mass of raw flesh.

No. 2. This was a large draft horse, weighing about 1,600 lbs., belonging to a firm who had some fifty horses in the same stable. He was the only one showing signs of the disease, having but one ulcer, which made its appearance midway between the shoulder and hip, on the right side. The first that was noticed was a swelling about the size and thickness of a man's hand, which caused the animal a good deal of uneasiness from the itching of the parts, so that he had to be restrained from biting and rubbing. About the third day after first noticed the swellings showed the moist appearance of these ulcers, having the characteristic albuminous or grumous discharge, which continued some three months, and the sloughing extended until it became some eight inches in diameter, and the external surface of three or four ribs had been laid bare. This healed only as cold weather came on.

No. 3. This was a brown gelding belonging to Dr. French, and was brought to the College Infirmary Sept. 29th, 1882. Upon examination I found the glans penis considerably enlarged and studded with numerous watery growths, evidently of the papillary variety; while on the extreme end of the glans penis was a caseous or fibroid mass, equal in size to a large filbert. This on removal left a deep sulsus, ragged and angry in appearance. The parts were dressed with iodoform and antiseptics until October 2nd, when the animal was returned to the infirmary, and the penis amputated. The parts seemed to do well, healing rapidly, and giving no indications of trouble until about November 1st, when it was noticed he was having trouble, voiding his urine. On the 11th of November he was cast for examination, to determine whether advisable for amputation higher up. The lower end of the uretha was found almost entirely obstructed with apparently unhealthy excessive granular masses. The owner not wishing the animal to suffer further, and deeming it of a cancerous nature, ordered him to be destroyed, although to all appearances the animal was otherwise in good health. Immediately after the shooting of the horse an autopsy was held, whereupon only two lesions were found in the uretha, above that already spoken of. These were simply abraded surfaces in the canal (about one-half an inch in diameter), and besides a slight irritability of the bladder, nothing was found in the internal organs except one small kunker in the right kidney. Dr. Hunter examined a portion of the parts first amputated, and pronounced it of a cancerous nature.

No. 4 was that of a brown gelding (1883), used on a stone jigger, who had injured his front leg from knee to foot, by passing it under the door of the stable during an attack of colic. Thinking the injury to be only of a mild nature, the owner paid little attention to it, though covered it with cloth. The animal being able to stand on the limb, and to walk without lameness for the first week, was worked for some three or four days though the weather was severe, the ground frozen and rough—this being followed by a heavy fall of snow, and extremely cold weather. I was called in to attend the case ten days after the original injury had occurred, finding the animal unable to stand on the affected limb. Examination revealed one confluent ulcer from foot to knee, the bone being bared some six inches on the lower end of the large metacarpal bone, and the external lateral ligament of fetlock joint being lacerated, allowed dislocation of the fetlock.

No. 5 was that of a grey gelding, belonging to a logging firm, and was at this time (January 1st, 1885) in the woods some ninety miles north of Minneapolis, and had been used until three days previous to my arrival at the camp hauling logs. The first notice of the animal's suffering from any disease whatever was at noon, when he was seen to refuse his food, and when

the bits were replaced in his mouth the tongue was found badly swollen on the under surface. I reached the camp January 2nd, at 9 a.m., the thermometer standing at 53° below zero. I found the animal in a log hovel used as a workshop, which they were attempting to heat by a large cast-iron stove, but which seemed next to impossible to do; for as the upper atmosphere would become heated a cold draft would pass along the animal's legs and body, which induced most unfavourable complications. On examination the tongue was found protruding some four inches between the incisor teeth, and from his mouth an abundant flow of saliva, offensive muco-purulent discharge. Upon opening the mouth, the tongue was found swollen from tip to base to such an extent as to entirely fill his mouth. The under surface of tongue at junction of the "frænum" showed indications of sloughing, being bulged and of a gangrenous nature around the edges of the swelling, the centre of which was more of a yellow cast, and discharging an albuminous fluid.

No. 6 was a mule belonging to the North Star Fuel Co. of this city, which was presented at the College Infirmary for examination August 3rd, 1885. I found the animal suffering from several Bursatti ulcers, one on respectively a hind and a fore-leg, which had been abraded by interfering; another on his shoulder and one under his abdomen.

No. 7 was a mule belonging to the Minneapolis Street Car Co., which I was called to examine October 17th, 1885. The animal had worked during the forenoon, but on removing the bit from his mouth the tongue was found badly swollen. At the time when I examined him (3 p.m.) the tongue was protruding from his mouth laterally, and was discharging profusely saliva mixed with a ropy grumous fluid so characteristic of this disease. Opening the mouth the tongue was found swollen similar to "No. 4," though less extensive, and the animal breathed very fast by spells, refused food or drink, pulse somewhat accelerated, being sixty beats to the minute, and temperature but slightly elevated, standing at 102.

The histology and nature of this disease I will not take up your time here to enter upon, as the pathology of it is yet an unsettled question, though I may say it has many advocates in favour of its cancerous nature; but for the present I will leave it with you for discussion, hoping to have an opportunity for further observation, more minute study, and microscopical research during next summer.

The treatment for my first year's experience with the disease was of an antiseptic and cleansing nature, but with little avail. The next year I tried caustics and irritants of all descriptions; actual cautery, arsenic, acids, nitrate of silver; also styptics, sulphate of iron and copper, tincture of iron, etc. The third year iodoform, alum, and salicylic acid, with some indications of better results, but nothing flattering. For the past two years I have had excellent results with a liniment composed of olive oil, aqua ammonia, and fluid ext. of arnica, and a powder composed of alum, salicylic acid, calomel, and sulphate of iron; and as a rule, internal treatment by purgatives and tonics. Hoping this may lead to an animated discussion, and bring out other avenues of treatment, I now close.

Mr. SERMON recorded three cases, one of which was affected on the shoulder; another which was affected on the fetlock, died, and the autopsy revealed numerous calcareous bodies all through the lungs. The third was suffering from a similar growth on the inside of face. The first and last recovered under treatment with caustics and astringents.

Dr. LYFORD referred to one case, in which on excising a tumour, he found in the centre calcareous nodules or kunkers.

After some further discussion, Mr. POMEROY communicated two cases of Parturient Apoplexy.

PATHOLOGICAL SOCIETY OF LONDON.

Nephritis in Lambs.

AT the meeting of this Society, held on April 6th, Mr. ROGER WILLIAMS exhibited specimens of Acute Nephritis in lambs. The disease began soon after birth with difficulty in walking, the new-born falling down and lying on one side, sometimes with choroid movements, without loss of consciousness, without difficulty in breathing or cough ; sucking was not impaired, nor the appetite. The disease appeared to attack the lambs of ewes imported from Scotland, and especially those whose female parents were served by a ram who was far from vigorous, having to spend his strength on too many ewes. At all events, it was found that if a ram only served ten ewes the progeny were vigorous, and did not become affected with the disease. Mr. Williams had examined two lambs, one that died of the disease and another killed at three weeks old. The urine was albuminous and acid, whereas it should have been alkaline. There were no renal casts, crystals, pus, or blood. The capsules of the kidneys stripped off easily, exposing a surface studded with congested stellate veins. The cortex was swollen and soft, pale and yellowish in colour, whilst the pyramids were firm and deep-red in colour. The disease was an acute Tubal Nephritis ; the tubular epithelium was much degenerated, not staining with logwood, whilst the interstitial tissue was normal. The changes in both cases were identical, though one was in a more advanced condition than the other. Nothing abnormal was detected in any of the organs, and the spinal cord was healthy. Some of the lambs were born with the disease, and soon succumbed.

Dr. PYE-SMITH said the normal reaction of lamb's urine whilst suckling was acid.

ROYAL AGRICULTURAL SOCIETY.

THE monthly meeting was held on April 7th, when Sir JOHN THOROLD (Chairman) reported that Dr. Johnson, having submitted a paper on "Abortion" for the consideration of the Veterinary Committee, they recommended its publication in the October number of the Journal ; and in the meantime they wished to draw the attention of the members of the Society to the desire of Dr. Johnson to receive further information from those whose herds had been or were suffering from its attacks.

The Committee recommended that a sum of £50 be placed at the disposal of Professor Robertson to enable him and one of the younger teachers, subject to the approval of the Governors of the Royal Veterinary College, to proceed to Paris in order to instruct themselves in M. Pasteur's system of the attenuation of virus for the purpose of preventing the spread of the contagious diseases of animals of the farm.

Obituary.

DR. T. SPENCER COBBOLD died on March 20th, of Angina, in the fifty-seventh year of his age. Though chiefly known to the veterinary profession as a lecturer on Helminthology and Botany at the Royal Veterinary College since 1872, yet he had a world-wide reputation as a writer on the first-named subject, of which he had made a special study, and our colleagues are indebted to him for a little work on the Internal Parasites of the Domesticated Animals—a manual of the entozoa of the ox, sheep, dog, horse, pig, and cat. He also from time to time published papers on entozoa in animals. His more important works were his "Worms : Lectures on Practical Helminthology," and "Entozoa : an Introduction to the Study of Helminthology." The *British*

Medical Journal gives the following brief sketch of his career:—Dr. Cobbold gave early signs, not only of general ability, as evidenced by the high academical honours he obtained at the conclusion of his curriculum in the University of Edinburgh, but of a special bent towards the study of natural history. He was appointed Curator of the Anatomical Museum of the University of Edinburgh, a post which he held until 1856, when he established himself in London. He quickly became known as a student of the habits and nature of parasitic beings, and his reputation was consolidated by the publication of his well-known work on Entozoa in 1864. In the same year he became a Fellow of the Royal Society, and he received from other sources numerous other gratifying recognitions of the position he had achieved. He became Vice-President of the Edinburgh University Club, honorary Vice-President of the Birmingham Natural History and Microscopical Society, honorary corresponding member of the Academy of Science at Piladelphia, a foreign corresponding member of the Royal Agricultural Academy at Turin, and Emeritus Swiney Professor of Geology in connection with the British Museum. Dr. Cobbold was also for some time Examiner in Comparative Anatomy, Zoology, and Botany for the Natural Science Scholarship in St. Mary's Hospital Medical School, Lecturer on Parasitic Disease, Botany, Zoology, and Comparative Anatomy to the Middlesex Hospital Medical School, Senior President of the Royal Medical Society of Edinburgh, Vice-President of the Physiological Society of Edinburgh, and President of the Quekett Microscopical Club.

Army Veterinary Department.

Gazette, April 6th.

Veterinary Surgeon, First Class, J. E. Elphick resigns his commission.

Veterinary Surgeon, First Class, R. F. Frost, has arrived in England on six months' sick leave, he having had an attack of sunstroke while with the Expeditionary Force at Mandalay, Burmah.

Notes and News.

HYDROPHOBIA.—A return issued recently, shows the number of cases of Rabies in dogs and Hydrophobia in man that have been reported within the metropolitan police district from January, 1885, to the end of February of the present year. In January, 1885, eight cases of Rabies were reported, and one death from Hydrophobia, both of these diseases becoming more and more frequent till in November last the number rose to fifty-eight cases of Rabies, and five deaths. On the 10th of December the order for the muzzling of dogs was put in force, and in that month there were forty-six cases of Rabies, and one death. During the whole of 1885 there were 373 cases of Rabies, and twenty-six deaths. In January last the cases of Rabies fell to twenty-seven, and there was only one death. In February there were fourteen cases and no deaths.

RINDERPEST IN RUSSIA.—According to a medical report just published, the Cattle Plague continues to ravage various parts of Russia. Within a period of five years, from 1876 to 1880, the loss is estimated at no less than 1,208,500 head of horned cattle; but even these figures, based upon official information, are considered far below the real value.

LIGATURES.—The American periodicals publish some data concerning what is called iron-dyed surgical silk. It appears that for some years past Professor W. H. Pancoast, of Philadelphia, has been in the habit of employing *pure iron-dyed silk* for sutures, and the success that he has met with

points very clearly to its value for this purpose. The well-known strength of silk, which has enabled it to be used for violin strings in place of gut, its delicate structure, non-inflammatory character, and the fact of its being a substance of animal origin, are all strong arguments in favour of its employment in surgery. The advantage of iron dye is that it does away with the irritating lead compounds that are used to bleach white silk and to give it body, whilst the black colour of the silk so dyed renders it easy to distinguish, no matter how fine the suture employed. Mr. Pancoast's description of the operations in which he finds the black silk suture peculiarly applicable is interesting He employs it in varicocele, in which operation his practice differs from that of Dr. Baker, of London. This is what an American contemporary says on this head :—"Baker makes an incision, separates the veins of the cord from the vas deferens, then passes a needle threaded with twisted silk behind the veins, after which they are allowed to drop back into the wound. The needle is then returned in front of the veins which are then secured in the loop of the ligature through the original opening. Professor Pancoast's operation is much simpler, insomuch as no incision is necessary, and that the strong silk ligature crushes the veins against the metallic button. The crushing of the veins against a solid, resisting substance is unique. At the end of three days a lump of plasma usually forms, and the suture is removed." No doubt will be entertained as to the resisting power of silk which is twisted or spun ; but we question whether it will prove equal in this respect to the *whale tendon ligature* of Dr. Tsighuro, of Yeddo, Japan, which has attracted some attention of late years. We have also seen specimens of *ox tendon ligature*, which appeared of excellent quality. These two products will probably fight a hard battle for favour with the *silk ligature* to which we have just referred, and Professor Lister's *catgut ligature*. Whatever may be the result, no one will deny that ligatures constitute a very important feature in modern surgery. The Australians are now preparing ligatures from the sinews of the kangaroo.

Anatomy of the Lion.—A lioness's brain was recently dissected and studied by Herr Familiant, at the Anatomical Institute of the Berne Veterinary School. Among other results he finds (*Mittheilungen* of Berne Naturalists' Society, 1885) that in form it is in many respects intermediate between the dog's and the cat's brain ; from both it is distinguished by relatively small projection of the cerebellum and narrowness of the *lobus pyriformis*. Further, the chief fissures of the brain of carnivores are to be found in that of primates, the principal differences between homologous fissures being partly in imperfect formation, or perhaps retrograde formation of certain parts, and partly in confluence of some sections of originally separate fissures. In some varieties of the fissuring of man's brain, the original relations of the carnivore's brain recur. The parieto-occipital fissure is a special formation not met with in the brain of carnivores. The secondary fissures, especially in the frontal lobes, are due to a special mode of fissuring that has appeared late, and is, therefore, subject to wide variations.

Rabies.—It is gratifying to learn that a Bill is about to be brought before Parliament, making provision for the prevention of the spread of Rabies throughout the United Kingdom. It is introduced by Mr. Macfarlane, and backed by Dr. Cameron, Dr. Farquharson, and Mr. McIver.

Retirement of Professor Saint-Cyr.—After thirty-five years' service as a teacher at the Lyons Veterinary School, Professor Saint-Cyr is compelled to retire, we regret to learn, because of ill-health. In acknowledgment of his value and the good work he has done, the Government has conferred on him the title of Honorary Professor, while the teaching staff has bestowed on him a medal on which is the effigy of Bourgelat, as a *souvenir* of their regard for him.

Correspondence.

THE FELLOWSHIP DEGREE.

SIR,—I observe in the proceedings of the Border Counties Society, reported in this month's Journal (page 279) that Professor Williams asserts that Clause 9 of the Charter, conferring the power to establish the Fellowship degree, "was the greatest blow that was ever dealt the profession. It robbed every member of his birthright," etc. With characteristic reticence, he did not inform the meeting that he was one of those who perpetrated this robbery, he being a Foundation Fellow, and a member of Council in obtaining the Charter. I cannot find that a word was said against Clause 9 by any one, but I discover that Professor Williams continued to aid in the robbery by acting as a Fellowship Examiner for some considerable time, and I presume received fees for doing so. It may suit certain ends for bifacial people now to join what is supposed to be the majority of the profession (counting noses only), as it may turn out a profitable move. But it should be remembered that any dead dog can swim with the stream. Professor Williams has not been particularly successful in his exertions to split up the profession hitherto—the Charter for Scotland, for example; and he will be no more successful now. The law is against him, and he cannot but have lost the countenance of all the Fellows at least, by his action in this matter. When he talks about the ninth Clause robbing every member of his birthright, he talks unmitigated nonsense, and such as one would scarcely expect to find in a teacher of young men. He does not evidently understand the meaning of words. No persons had any rights in the profession until they became members of it, as any schoolboy could have told him. The Charter was obtained with the full consent of the profession, and nine years had elapsed without a word being said against it. A new Charter can only be obtained with the consent of the Fellows, by returning them all the money they have paid, at a heavy cost for the Charter itself.

Veterinary Medical Societies have much influence for good or evil. When wisely guided they may effect much good; but when under an evil influence, such as that I have referred to, they are on the way to disintegration. Some people improve and adorn everything they undertake; others soil and injure all they touch. So it is with societies and their doings. Wise men lead them upwards; foolish men drag them downwards. Anything more childish, unreasoning, and unreasonable than this spuriously-instituted agitation against the Fellowship degree, it is scarcely possible to conceive. It makes one blush to consider how little is needed to set some men at their wits' end. The agitation which is sending some people now into a state of nervous fever, might be designated "much ado about nothing," for there is really nothing—notwithstanding the ranting twaddle about birthright robberies, and the post-prandial "falutin" indulged in by those who have done nothing to benefit the profession in any way, or have done it much injury at times.

ANTI-HUMBUG.

DEAR SIR,—Will you kindly favour me with a little space in your Journal to make a few remarks in favour of the veterinary profession and the "Fellowship" degree? It appears that a few members of the profession are anxious to take a retrograde step, and rescind Clause IX. of our Charter, which is a direct blow at the Fellowship degree and to veterinary advancement. If the authors of circulars can find nothing better to offer as an inducement to obtain votes at the coming election, than the rescinding of Clause IX., and the pulling of the profession to pieces, the sooner they are "boycotted" (as they say in Ireland), the better. One of the circulars has rather a political flavour, and I will just add a little more (having read Viscount Wolseley's speech), and call on the

members and Fellows of the veterinary profession to rise to a man and say "Hands off," to any individual who attempts to pull their Charter to pieces.

What is the reason of all this? The answer is not far to seek. Our gallant "members" are afraid of "showing up" their theoretical ignorance to the examiners for the Fellowship degree, and they are too careless to "read up." There are dozens of them longing for the "Fellowship degree," and would willingly pay the money, were it not for the examination, which is really easy and reasonable.

Therefore, I would again call on the "members" of the profession to come forward like men, and show their love for their profession by presenting themselves for examination, and endeavour to raise their position by taking their stand with the little group of "Fellows" at the top of the tree. Let us shake off our tight-fitting trousers and horse-shoe pins, and endeavour to improve the degraded name of "Vet.," which is a danger signal to all of a decent social standing.

Let those who wish to remain in the mud, do so; but don't let us all return to wallow in the mire. Don't let us insult Parliament by asking to have Clause IX. rescinded. Don't let the public see that we are "nobodies" and wish to remain "nobodies."

"PROGRESS."

SIR,—If the gentlemen who are taking such active awkward steps for the repeal of the Ninth Clause of the 1876 Charter, are simply seeking a means by which a "*Member*" shall obtain the power to sit at the Council table, or on the board of Examiners, the difficulty, to my mind, is easy of solution. Necessarily now, there must be some irritating but irremediable delay. Who is to blame for that? Let the next Charter contain a clause granting the privilege and the power to the then existing Council to confer—upon payment of a proper fee—the degree of "Fellowship" to a "*Member*" elected to the Council by the general voice of the profession, or to a "*Member*" appointed by the Council to be an examiner. A somewhat similar course is taken, I understand, when a prelate of the Church of England is nominated by the Crown. If he be not already a Doctor of Divinity, the degree is conferred upon him without examination by the university at which he was educated.

T. BRIGGS.

AN OBJECTIONABLE FELLOW.

SIR,—A correspondent in the March JOURNAL, signing himself "M.R.C.V.S.," alludes to a statement made at a veterinary society's dinner by a "leading gentleman" in the profession—a Fellow—to the effect that he was an Examiner for the degree, drew fees for examining and pay for travelling expenses, and resigned because the examination was a sham. I have made inquiry, and am satisfied that the statement of this *mis*-leading fellow is untrue, so far as the examination is concerned—that it is, in fact, a gross and malicious libel on the examiners, the examined, and the Royal College itself, only to be excused on the plea that the speaker had been indulging more freely in strong potations than usual. "'Tis an evil bird that fouls its own nest," and we have a few birds of this kind among us, unluckily. But they dare not make such assertions as the above when any one is present who knows the facts, and can contradict such cowardly and untruthful slanders. The Fellows should ascertain who this individual is, and have him expelled from their ranks. He is not fit to associate among those with whom your correspondent—by a mistake, I presume—classifies him.

F.R.C.V.S.

THE LANCASHIRE VETERINARY MEDICAL ASSOCIATION AND THE NINTH CLAUSE.

SIR,—At a meeting of the above association held on the 10th of March, a motion was proposed by Mr. Alexander Lawson and seconded by Mr. J. B.

Wolstenholme, to the effect that the association shall not act in concert with the Midland Association, unless their nominee will oppose the ninth Clause. This is simply a reflection on the action of the Council, and to Dr. Fleming, a man who has spent his whole life in the service of his profession, has sacrificed his time, talents, money, strength, health, and almost life itself to advance the best interests of the profession. Dr. Fleming, Sir Frederick Fitzwygram, Messrs. Taylor, Whittle, Woods, Harpley, Cox, myself, and the whole Council (your representatives), must be treated as if there can be no confidence placed in them, no word of encouragement given them for the time, the labour, and the expense they have been put to, but they must be subjected to this insult, this outrage for having used their experience and their best judgment for the good of our noble profession. We have had no other earthly object to serve but the advance of our profession. I have spent fifty-two years of my life in my profession ; have occupied the highest and most honourable position in it ; most of my time during the last twenty years I have given in rendering whatever assistance and encouragement I could to veterinary medical associations in England, Ireland, and Scotland ; everywhere I have upheld and extolled the Lancashire Association, which at this day occupies the high, the proud, and noble position of being the first and most powerful association in Great Britain. This association was asked at the last meeting to so act as to invite the finger of scorn to be pointed at it, to bind itself hand and foot, to humiliate and dishonour itself by one fell blow, viz., not to join any other association, or to vote for any man unless he will pledge himself to use all his effort to undo our work. This is done at the instigation or dictation of gentlemen, some of whom only passed into the profession yesterday, as it were. Such men have no *locus standi*, have not the slightest pretext for complaint, not even the frivolous and paltry excuse of saying that they had been robbed of certain privileges. They are men who do not know the best interests or politics of their profession ; who have done little or nothing for it. At their dictation the association was asked to repudiate or ignore the life-long services of their best friends, to censure their action. A more ungracious act cannot be conceived.

The ninth Clause was enacted in 1876 by the Council, which Council is to all intents and purposes a representative body, having been elected by the whole profession in England, Ireland, and Scotland ; it stipulates that at the end of ten years none but Fellows will be eligible to become members of Council or examiners. This fact was made known to every member of the profession at the time, and very little or no opposition was shown to it ; everything was done above board, and in a perfectly legitimate manner ; any privileges possessed were then voluntarily surrendered. The acquiring this degree of Fellowship entails a certain amount of extra study, self-improvement, gaining an additional amount of knowledge, both scientific, useful, and practical, an inducement to study and improvement which never existed in our profession before. This we considered laudable, and tending to raise the status of our profession. These are a few solid, useful, and real advantages the aspirant for the Fellowship degree would acquire ; it would make the possessor a better surgeon, a more worthy man, and therefore it must follow he must be deserving a higher esteem and respect, and it is for this purpose that we earnestly invite every aspiring member to possess himself of this higher degree. We freely acknowledge that there are many members worthy and deserving it, but over and above this, it confers upon the holder of this degree through the ninth Clause a high and important privilege, a privilege guaranteed by law, viz., he becomes entitled through it, and is thereby eligible to be elected a member of Council, and also a member of the Court of Examiners.

I was one of those who assisted at the formation of this association, the

Liverpool Association, the Yorkshire Association, and the Midland Association. More than twenty years ago I had the honour of occupying the highest position in each of these associations. I remember a certain period in the existence of this society, when a certain member from a distance caused much annoyance and heart-burning, bringing about a discordant state of feeling, and almost a disruption. He had the happy knack of stirring up strife, and making our meetings a bear-garden. It was during the presidency of my friend, Mr. Alexander Lawson, who, to his credit be it said, conducted the meetings during these stormy and troublesome times with an amount of patience, skill, and tact, which reflected the highest credit upon him ; he has often said that the only meeting during his year of office that was free from uproar was the evening I read a paper before the association.

It is now with a feeling of delicacy and reluctance I revert to the fact that I see other members, some from a distance, doing their utmost to fasten a stigma or censure on myself, Messrs. Taylor, Whittle, Wood, Dr. Fleming, and every member of Council, as if wishful to stir up strife and squabbling, renewing the bear-garden scenes in our association, likely to bring about division and disruption. One of our leading members at once resigned his membership of the Liverpool Election Committee ; I look upon it as nothing less than an indirect insult to myself and each of the gentlemen named. The minds of some are so jaundiced and prejudiced, that they would support any kind of a man if only he would oblige them and oppose the ninth Clause. On the 29th of March, at an election committee meeting of the Lancashire Association, three or four of the oldest and ablest members refused to be placed upon the committee, and at the special meeting held on the 5th inst., the president resigned his presidentship, and also his membership of the election committee. At the same meeting I resigned my membership, and two or three of the oldest and ablest men in the association expressed their strong inclination to leave it in disgust.

I have felt amazed at the furious state some of these men get into about this ninth Clause, all in consequence of the fallacious view they have taken of it, and the fifteen guineas which loom in the horizon. I conscientiously believe if they could only be got to look at it and examine it fairly and dispassionately, it would be found that there is no injustice in it ; it would be seen that there is neither right nor reason in members feeling so acutely sensitive about this ninth Clause. See the incongruous and muddled state matters are got into by the action of these gentlemen at our last and former meetings, several of the more active members absenting themselves from the last meeting for some reason best known to themselves. The Liverpool, Yorkshire, and Midland, without the slightest reservation or stipulation, have passed a motion each to support the other, and endeavour by their conjoint action to carry their candidate without any conditions whatever being imposed on him ; but the Lancashire Association must stultify itself ; it must be bound by conditions at variance with Liverpool, Yorkshire, and Midland, viz., that if the candidate of the Midland will not pledge himself to be hostile to the ninth Clause, we must not co-operate with the Midland ; therefore the Lancashire is bound to vote at variance with the Liverpool, Yorkshire, and Midland who have no such stipulation. See what a ludicrous and suicidal course these gentlemen are plunging us into.

The Lancashire Association, holding, as it does, the proud position of being the oldest and most influential Society in Great Britain, is the only association which has thought proper to adopt this narrow view of this great question. To carry out their perverse views would be, I am seriously convinced, nothing less than a retrograde movement ; it would be progressing downwards. Look at our Scotch brethren ; see how they can join hand in hand. See the North of England and the Scottish Metropolitan joining in one

circular to carry a Fellow and a non-Fellow. They would be ashamed to show such a little mind, so illiberal a disposition, as we have displayed. They are acting as wise men in a brotherly fashion, to ensure a common success. What a contrast to the action of some of the members of the Lancashire Association, whose petty jealousies, petty envy, conceit, and uncharitableness, it would seem, dominate their better judgment and every generous sentiment.

What would be said if such action were taken by a railway or any other great company? The directors are appointed annually at the annual meeting, the same as our members of Council are. They are selected from amongst a great mass of shareholders, because they are supposed to possess experience and ability. The conducting of the whole concern is placed absolutely in their hands. They have the power to lay lines, build warehouses and engines, etc., and, in fact, do everything necessary for the well-being of the concern. If they could not be entrusted with this discretionary power, they ought never have been elected directors. Who but a fool, I would ask, would say to these directors, "*You are only a miserable minority. What right have you to use the power that is vested in you?*" But this is precisely the thing these Heaven-sent geniuses are saying to their directors, their representatives in the Council. No railway company, no business could be carried on if such conduct were tolerated. There are a few dissatisfied, grumbling souls, who, it would seem, feel a fiendish pleasure in censuring the action of those who have proved themselves to be the very best friends the profession ever had, who have spent more time and pounds, ungrudgingly in honest efforts to raise their profession, than these grumblers will ever spend pence. It is quite true it often happens that at the railway annual meetings some one or other may get up and find fault with the action of the directors; but who, let me ask, are these fault-finders? It is nearly invariably the case that those who roar the loudest have the least interest at stake.

I find that the Fellows to a man are some of the best and most worthy men in our profession; are those who throughout their whole lives have taken the greatest and deepest interest in its onward progress; have been presidents of veterinary medical associations, writers, professors, or benefactors in one way or another. Look at the benevolent funds, the Building Fund of the new College, and the presents to it. The Fellows are the principal subscribers in every instance, notwithstanding the disparity in numbers. The hostile party are ever flouting it in our face that they number 3000 against our 150. But I say if these 3000 members do not possess enough enterprise, energy, or enthusiasm individually, or feel sufficient interest in their profession to pay fifteen guineas to become Fellows, they are destitute of sufficient interest and enthusiasm in their profession to spare or devote the requisite time and expense attendant upon being a member of Council, or being on the Court of Examiners.

Do we not find the West of Scotland, Scottish Metropolitan, North of England, the Southern Counties, the Royal Counties, the Midland, and other associations have, on their own account, or in conjunction with other associations, selected candidates for the forthcoming election, *who are Fellows?* There are only two associations whose members allow themselves to be overborne by bigotry and intolerance to bring forward candidates (as test cases) who are non-Fellows, and who, if elected, will, by the law of the land, be members of Council only until August 23rd, next ensuing, unless in the meantime they permit wiser counsels to prevail and to guide them, and they become Fellows, which is "a consummation devoutly to be wished."

T. GREAVES, F.R.C.V.S.

THE COMMISSION ON HYDROPHOBIA.

SIR,—The Council of the Royal College of Veterinary Surgeons has allowed the Commission to investigate Pasteur's method of inoculation for Rabies, to be made up without a veterinary surgeon being appointed and without raising its voice.

In no other country in the whole world would such a Commission be formed to investigate an essentially animal disease without a veterinary expert. In no other profession or trades union would its Council allow such an insult to be offered to it.

This Commission consists of a chemist, a surgeon, a therapeutist, and an Oxford professor of pathology.

There has been an almost unique opportunity missed for forwarding our social and professional *status*, by forcing a recognition of, at least, one of our body, and through one the whole.

We shall be held up to the contempt and the ridicule of the world as the only profession which cannot be trusted with an investigation into a special branch of its own particular business. The French will conclude from our absence from the Commission that we are still a set of cow-doctors and horse-leeches unfit for scientific or any other society. The injury done us, at home and abroad, by the remissness of the Council is simply incalculable, as a moment's thought will satisfy any one.

What has the Council been doing? Why has it neglected our interests? Why was not a deputation sent to the President of the Local Government Board, or at least a protest lodged? We have a just right to demand of those members of the Council who seek re-election, what they have done in the matter.

"SACK."

[Our correspondent will see from the announcement in the body of the Journal, that the omission he complains of has been remedied.—ED. *V. J.*]

PREVENTION OF ANTHRAX.

SIR,—Probably most of your country readers will feel the same deep interest in Mr. Mulvey's contribution to the Journal on the subject of Anthrax as the undersigned, but would he kindly explain the *modus operandi* of his prescription?

We are all willing to believe that previous experience of the fatal nature of the malady is no reason why it should continue to defy the advanced science of a later generation; but, for the benefit of rustics, whose chemistry has become very seedy, would Mr. Mulvey just say whether the Acid carbol. is intended to neutralise the Sodæ carb., or *vice versa*, or whether the Sodæ carb. is put in for the express purpose of saponifying the Ol lini, and whether the Bacillus anthracis is destroyed by the evolution of carbonic acid, or washed away in the soap product?

I have had much to do with Anthrax, but not met with a tithe of Mr. Mulvey's success, and cannot help thinking my failure must be due to such old-fashioned notions as prescribing the fewest number of incompatibles in any given prescription.

HAROLD LEENEY, M.R.C.V.S.

THE ONTARIO VETERINARY COLLEGE.

SIR,—It afforded me very much pleasure to be present at the ninth annual dinner of the students of the Ontario Veterinary College, which is a token of the good feeling existing between the professors and students of the College. At the present time the College may be said to be in a very flourishing condition, which is wholly due to the ability, energy, and perseverance, and genial manner

possessed by the Principal of the College, Professor A. Smith, M.R.C.V.S. The number of students attending at the present session is 275, which is made up of students from all parts of the Dominion of Canada, and also from nearly every state in the Union. The large dining-hall of the Walker House was filled to overflowing with guests and students, each seeming to enjoy the excellent menu spread before them. Among the guests present we may notice the following distinguished persons:—On the right of the Chairman, W. P. McClure, sat Dr. Smith, Principal of the College; H. Wade, Secretary of the Agricultural and Arts Association; Dr. Barrett, Professor of Physiology in the College; Dr. Duncan, Professor of Anatomy; Dr. Thorburn, Professor of Medicine; Professor Babington, Lecturer on Chemistry; Rev. Dr. Wild, Alderman Defoe, Captain Manly, Mr. Acres, Mr. S. H. Ward, and Dr. Nattress. On the left of the Chairman sat—Lieut.-Col. Otter, United States Consul (Mr. Wagner), Mr. Balfour, M.P.P., Alderman Franklin, Dr. May, Rev. Charles Campbell, Rev. G. M. Milligan, E. P. Roden, F. P. Jeffrey, Major Lloyd, V.S., W. Cowan, V.S., and others. The Chairman commenced speechifying at ten o'clock, and spoke of the advantages of social gatherings, and that the object of this entertainment was to do honour to the College's profession, between whom and the students the greatest cordiality exists. He closed in proposing the toast of "The Queen," in a brilliant peroration, in which he spoke glowingly of England's prowess, Ireland's future, and Canada's freedom and advantages. The Vice-President, Mr. S. L. Hunter, proposed the toast, "The President of the United States," in a very pleasing manner, and the cheers from the American students showed that they think highly of President Cleveland. Mr. C. Smith proposed "The Governor-General," which was replied to by Rev. Dr. Wild, in a very genial and pleasing address. He said no Canadian educational institution, in any line, was doing better work. If the theory of the transmigration of the soul of man after death into the bodies of the lower animals were correct, they were doing a grand work. Mr. Dodds, "The Lieutenant-General," which was responded to by Rev. Mr. Milligan, in a stirring and eloquent address on the veterinary profession. Mr. Shoemaker, "The Army, Navy, and Reserve," to which Colonel Otter and Captain Manly replied in good speeches, relating many of their experiences in connection with the North-West rebellion. Mr. Anderson, "The Mayor and Corporation," responded to by Aldermen Defoe and Franklin. They spoke of the energy and industry displayed by the Principal (Professor Smith) of the College, and the value of the veterinary profession to stock-owners. Mr. Cheeseman, "The Agricultural and Arts Society," was responded to by Mr. H. Wade, Secretary. Mr. Boulter, "The Veterinary College," the toast of the evening, was responded to by Professor Smith, who on rising was greeted with prolonged and vociferous cheering. After thanking the students, he alluded to the rise of the College, and the harmony that always existed between the professors and students. He stated that when he commenced business, twenty years ago, his object was to assist the Board of Agriculture in founding and carrying on a school of veterinary science. At the close he thanked them heartily, which was again the signal for a good round of cheers from the students. Mr. Parks (New York), "Our Professors," responded to by Professors Barrett, M.D., Duncan, M.D., V.S., Babington. Mr. J. Scott, "The Veterinary Profession," responded to by Messrs. Lloyd, V.S., and Cowan, V.S. Dr. Nattress proposed "The Students," responded to by Mr. Ingalls, student. Mr. Stewart, "Folks at Home," responded to by Mr. Rhode. Mr. Whitehead, "The Ladies." Mr. Moore, "The Press." This brought to a close, about two a.m., the finest entertainment I ever attended, all retiring after singing the National Anthem. W. P. HUNTER.

Toronto, *February 27th*, 1886.

NEW INVENTIONS.

SIR,—Under this heading in the last issue of your valuable Journal, I see a very glowing account of what Messrs. Hewlett purport to be a "New Instrument for Catching Dogs."

On looking over my notes on Rabies, I find that an instrument possessing the special characters described by Messrs. Hewlett, was used by the police (advised, I believe, by Prof. Walley) in capturing dogs during an outbreak of Rabies in the city of Edinburgh, several years ago.

F. G. A.

AN EXPLANATION.

DEAR SIR,—Owing to my illness, I am sorry to state that the name of Mr. Geo. Elphick, M.R.C.V.S., Newcastle-on-Tyne, was not sent by me, his nominator, in due time for nomination as a candidate for election as member of Council of the Royal College of Veterinary Surgeons at the ensuing election.

W. WILLIAMS.

New Veterinary College, Edinburgh, *April 21st.*

MEETINGS OF VETERINARY SOCIETIES.

The next meeting of the Southern Counties Veterinary Medical Association will be held at Southampton, when it is expected that Dr. Fleming will deliver an address on "The Diagnosis, Prophylaxis, and Suppression of Rabies."

The quarterly meeting of the Liverpool Veterinary Medical Association will be held on May 14th, in the Medical Institute, Hope Street, Liverpool. Chair to be taken at 6 p.m.

The Western Counties Veterinary Medical Association will meet at Launceston on the third Thursday in September.

A number of communications and reports for which there was not space in the present issue, will appear in our next.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from W. P. Hunter, Toronto; F. Raymond, A.V.D., Woolwich; S. H. Slocock, Hounslow; E. E. Bennett, A.V.D., Aldershot; D. Lyford, Minneapolis, U.S.A.; J. Roalfe Cox, London; E. A. Hollingham, Tunbridge Wells; A. Broad, London; Professor Robertson, London; A. W. Hill, London; "F. G. A."; R. A. Stock, Lewes; J. S. Hurndall, Liverpool; T. Briggs, Bury; T. S. Griffith, A.V.D., Cairo; R. S. Barcham, North Walsham; W. Penhale, Devon; A. W. Hill, London.

BOOKS AND PAMPHLETS: *J. Vaughan*, Strangeway's Veterinary Anatomy; *L. Villain et V. Bascon*, Manuel de l'Inspecteur des Viandes; *P. F. Charon*, Etude sur le Cornage Chronique; *G. Paladino*, Instituzione de Fisiologia.

JOURNALS, ETC.: *Journal of National Agricultural Society of Victoria; Revista Popular de la Exposicion Rural Enternacional; Echo Vétérinaire; Journal of Agricultural Society of Victoria; American Live Stock Journal; Deutsche Zeitschrift für Thiermedicin und Vergleichende Pathologie; Wochenschrift für Thierheilkunde und Viehzucht; Admiralty and Horse Guards Gazette; Mark Lane Express; Live Stock Journal; Hufschmeid; Bladen tot Bevordering van Veetartsenijkunde in Nederlandsch Indie; Journal of Comparative Medicine and Surgery; Lancet; British Medical Journal; Clinica Veterinaria; Presse Vétérinaire; Archiv für Wissenschaftliche und Praktische Thierheilkunde; American Veterinary Review; Revue Vétérinaire; Journal of Microscopical Science; Edinburgh Medical Journal; Annales de Médecine Vétérinaire; Journal de Médecine Vétérinaire et de Zootechnie.*

NEWSPAPERS: *Madras Mail; Toronto Mail; Cambridge Independent Press; Montreal Gazette.*